

**Tennessee Valley Authority**  
welcomes you to the

**Environmental Investigation Plan**  
John Sevier Fossil Plant

**COMMUNITY  
INFORMATION SESSION**



## EVENT GUIDE

This event is to provide information about the Environmental Investigation Plan (EIP) for the John Sevier Fossil Plant. We welcome your feedback and comments on the EIP.

The following acronyms appear frequently on the boards:

- Environmental Investigation Plan (EIP)
  - Environmental Assessment Report (EAR)
  - Coal Combustion Residuals (CCR)
  - Tennessee Valley Authority (TVA)
- Tennessee Department of Environment and Conservation (TDEC)
  - Sampling and Analysis Plan (SAP)
  - Environmental Protection Agency (EPA)

The information boards are color-coded according to the technical focus area they cover in the EIP. For instance, if they contain general information regarding the EIP process, the information board will be color-coded in blue.

General Information

Below are the main areas of technical focus in the EIP, divided by study area. More information on the activities within each area is available at stations around the room.

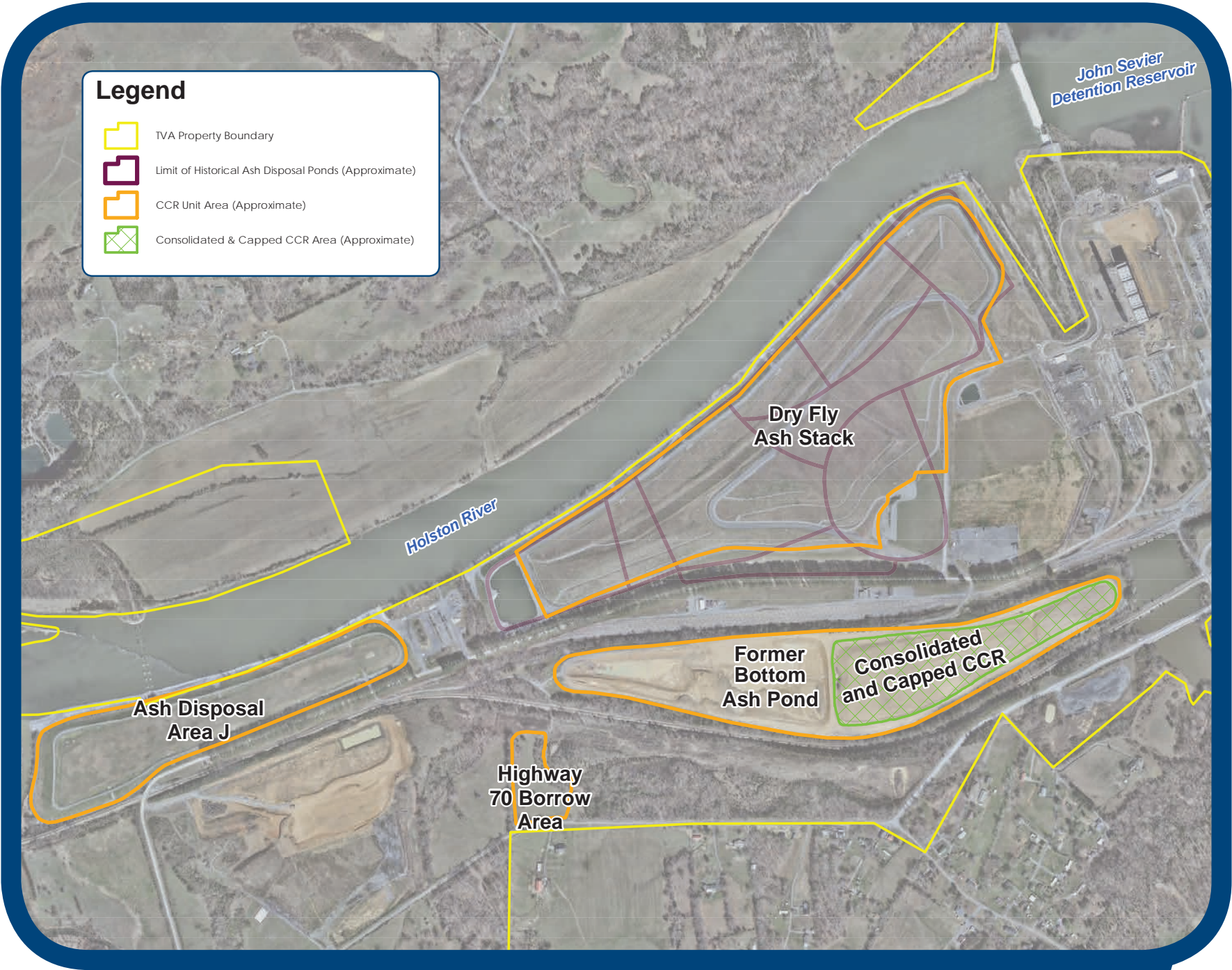
The evaluation of existing site data serves as the foundation to support the additional studies planned for each focus area.

Geotechnical	Civil/Mapping Activities	Hydrogeologic	Environmental
<ul style="list-style-type: none"><li>• Exploratory Drilling</li></ul>	<ul style="list-style-type: none"><li>• Coal Combustion Residuals Material Quantity</li></ul>	<ul style="list-style-type: none"><li>• Hydrogeologic Investigation</li></ul>	<ul style="list-style-type: none"><li>• Benthic Investigation</li></ul>
<ul style="list-style-type: none"><li>• Slope Stability</li></ul>		<ul style="list-style-type: none"><li>• Groundwater Investigation</li></ul>	<ul style="list-style-type: none"><li>• Fish Tissue Investigation</li></ul>
		<ul style="list-style-type: none"><li>• Water Use Survey</li></ul>	<ul style="list-style-type: none"><li>• CCR Material Characteristics</li></ul>
		<ul style="list-style-type: none"><li>• Background Soil Investigation</li></ul>	<ul style="list-style-type: none"><li>• Surface Stream Investigation</li></ul>



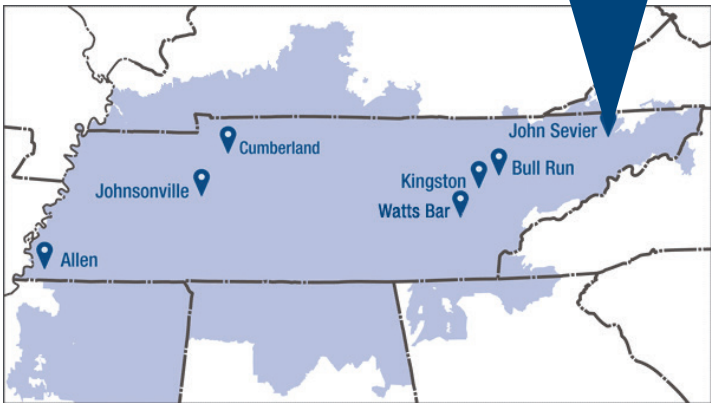
# JOHN SEVIER FOSSIL PLANT

# JOHN SEVIER FOSSIL PLANT



## Facility Overview

- 1957** John Sevier Fossil Plant construction completed
- 4** Coal-fired units
- 704** Megawatt facility, enough to power
- 350,000** Homes
- 2012** Fossil plant decommissioned



### CCR Units:

- Dry Fly Ash Stack (Closed),
- Bottom Ash Pond (Closed),
- Ash Disposal Area J (Closed), and
- Highway 70 Borrow Area (Closed)



# COAL COMBUSTION RESIDUALS COMPLIANCE ORDER

## What is the TDEC Order and why was it put in place?

On August 6, 2015, the Tennessee Department of Environment and Conservation (TDEC) issued Commissioner’s Order No. OGC15-0177 to the Tennessee Valley Authority (TVA) for Coal Combustion Residuals (CCR) Compliance pursuant to the provisions of Tennessee’s solid waste management and disposal laws.

This order establishes a transparent, comprehensive process to investigate, assess, and remedy unacceptable risks resulting from the management and disposal of CCR at TVA coal-fired power plants.

## What is the EIP?

### What it is and why we do it

TDEC has requested certain information about John Sevier’s CCR management.

### What do we already know?

TVA has ongoing programs and monitoring that can help answer TDEC’s questions.

### Proposed EIP Activities

The Environmental Investigation Plan (EIP) lays out the proposed investigation TVA will conduct to provide additional information that TDEC has requested.

## Did you know...

TVA started decommissioning and demolition of the John Sevier Fossil Plant in 2012 in an environmentally friendly way to restore the former coal plant to land that can be used for economic development. Concrete has been reduced to rubble and used to backfill the plant basement. Metals have been sorted for recycling and reselling.

### What are coal combustion residuals?

Coal combustion residuals, commonly known as coal ash, are created when power plants burn coal to produce electricity.

These residuals include fly ash, bottom ash, and gypsum, and are collected separately from different areas of the facility.

Fly ash originates from the flue gas electrostatic precipitators, bottom ash from the boilers, and gypsum from the sulfur dioxide scrubbers.



Bottom Ash



Gypsum

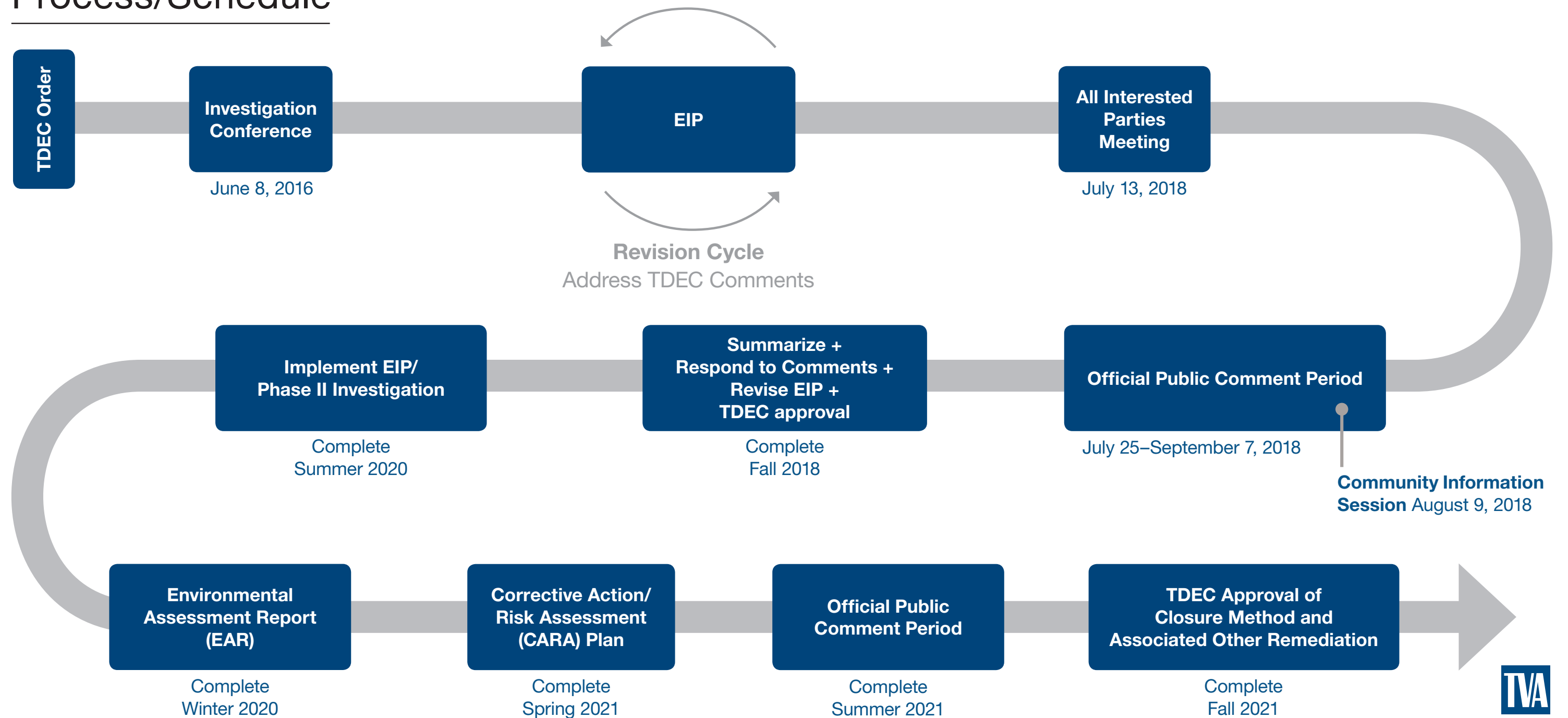


Fly Ash



## ENVIRONMENTAL INVESTIGATION PLAN

### Process/Schedule



ACTIVITIES MATRIX

FOCUS AREA	EXISTING INFORMATION	PROPOSED EIP ACTIVITIES
Exploratory Drilling	<ul style="list-style-type: none"><li>Performed as required for specific projects</li><li>More than 540 existing borings and more than 120 water level instruments</li></ul>	<ul style="list-style-type: none"><li>Geotechnical drilling and soil sampling</li><li>Install water level instruments</li><li>Laboratory testing</li></ul>
Slope Stability	<ul style="list-style-type: none"><li>Routine visual monitoring and instrumentation monitoring</li><li>Existing analyses (available for some units) meet industry standards</li><li>Existing drilling and laboratory data support new analyses</li></ul>	<ul style="list-style-type: none"><li>Compare existing models to new data</li><li>If needed, update models and reanalyze</li><li>New analyses (for some units) for normal and earthquake conditions</li><li>Compare slope stability results to acceptance criteria</li></ul>
Coal Combustion Residuals (CCR) Material Quantity	<ul style="list-style-type: none"><li>As built/record drawings</li><li>Aerial surveys performed for specific projects</li><li>Historical borings drilled, beginning in 1952</li></ul>	<ul style="list-style-type: none"><li>Review existing surveys, drawing, and borings</li><li>Develop three-dimensional models of CCR units</li><li>Confirm CCR volumes</li></ul>
Hydrogeologic Investigation	<ul style="list-style-type: none"><li>Monitoring well network in place for state permitting requirements</li></ul>	<ul style="list-style-type: none"><li>Install 2 background wells</li><li>Install 6 downgradient wells</li><li>Report on analytical assessment</li></ul>
Groundwater Investigation	<ul style="list-style-type: none"><li>Groundwater monitoring has been ongoing since 1986</li></ul>	<ul style="list-style-type: none"><li>Bimonthly groundwater sampling for 1 year (6 events)</li></ul>
Water Use Survey	<ul style="list-style-type: none"><li>Previous survey in 2015</li></ul>	<ul style="list-style-type: none"><li>Update previous studies by reviewing state database and water supply information for City of Rogersville</li><li>Report on analytical assessment</li></ul>
Background Soil Investigation	<ul style="list-style-type: none"><li>Background soil samples collected with background monitoring wells</li></ul>	<ul style="list-style-type: none"><li>Test additional background sampling locations for CCR constituents</li><li>Review existing data for comparative analysis</li><li>Report on analytical assessment</li></ul>



ACTIVITIES MATRIX

FOCUS AREA	EXISTING INFORMATION	PROPOSED EIP ACTIVITIES
Benthic Investigation  (sediment, benthic macroinvertebrate, and mayfly sampling)	<ul style="list-style-type: none"><li>Benthic invertebrate community sampling, 2009 to 2011</li></ul>	<ul style="list-style-type: none"><li>Collect sediment, benthic macroinvertebrates, and mayfly samples</li><li>Analyze sediment samples for CCR constituents and percentage of ash</li><li>Analyze benthic macroinvertebrates for community structure and diversity</li><li>Analyze mayfly samples for CCR constituents</li><li>Comparative analysis against upstream samples and existing data</li><li>Due to concerns regarding history of sediment contamination related to off-site industrial sources upstream of the plant, sediment-sampling transects on the Holston River upstream from the detention dam are not proposed.</li><li>Report on analytical assessment</li></ul>
Fish Tissue Investigation	<ul style="list-style-type: none"><li>Fish community data collected and assessed from 2001 to 2011</li><li>No previous fish tissue studies conducted at site</li></ul>	<ul style="list-style-type: none"><li>Capture target fish species at sampling locations</li><li>Remove and transport fish tissue samples to laboratory</li><li>Analyze tissue samples for CCR constituents</li><li>Comparative analysis against upstream samples</li><li>Report on analytical assessment</li></ul>
CCR Material Characteristics	<ul style="list-style-type: none"><li>CCR leachability characterization of fly ash and bottom ash</li></ul>	<ul style="list-style-type: none"><li>Collect CCR material samples from borings in units</li><li>Collect pore-water samples from temporary wells in units</li><li>Analyze samples for CCR constituents</li><li>Comparative analysis against existing data</li><li>Report on analytical assessment</li></ul>
Surface Stream Investigation	<ul style="list-style-type: none"><li>National Pollutant Discharge Elimination System (NPDES) permit:<ul style="list-style-type: none"><li>Various effluent parameters sampled on weekly, monthly, quarterly, and annual basis</li><li>Whole effluent toxicity analyses conducted annually</li></ul></li></ul>	<ul style="list-style-type: none"><li>Collect water samples</li><li>Analyze samples for CCR constituents</li><li>Comparative analysis against upstream samples and existing surface stream data</li><li>Report on analytical assessment</li></ul>

# COAL COMBUSTION RESIDUALS MATERIAL QUANTITY

## What it is and why we do it

Frequent surveys of the site track the location and quantity of coal combustion residuals (CCR).

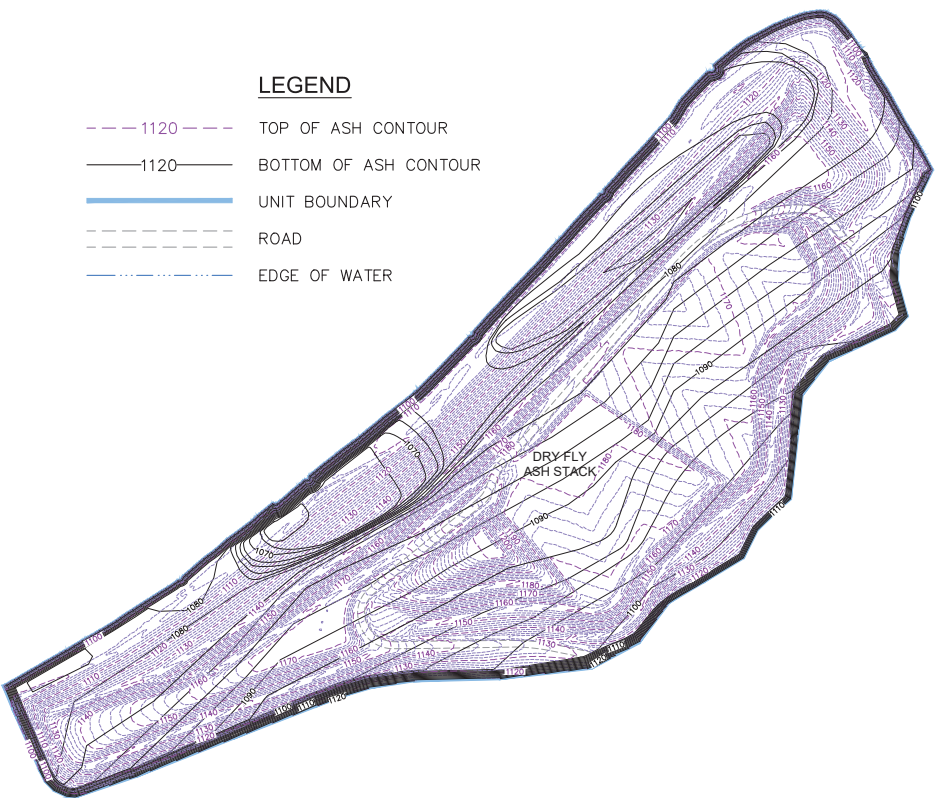
This aids in overall site management as well as byproduct sales.

## What do we already know?

- Pre-development Topographic Maps
- Aerial Surveys
- As-Built/Record Drawings
- Drilled Borings

Even before construction began, the facility had been extensively mapped. These site topographic maps, aerial surveys, and construction updates are used for site management.

Site mapping was typically updated annually, as well as at any time significant changes were made to the layout of the site—whether that means a shift of operations from one area to another or an increase/decrease in the volumes of materials stored on site. These mapping updates were for both inventory management as well as site management, ensuring that the CCR units are used to their best potential.



Example of a 3-dimensional model developed and used to calculate volumes

## Proposed EIP Activities

- Review existing surveys, drawings, and borings
- Develop 3-dimensional models of CCR units
- Incorporate data from new EIP soil and rock borings and monitoring wells into the model
- Confirm CCR volumes



# BENTHIC INVESTIGATION— BIOLOGICAL STUDIES

## What it is and why we do it

The Holston River is evaluated to compare the health of aquatic wildlife upstream and downstream of the plant.

These evaluations have two parts:

- Testing mayfly adults and nymphs to see if CCR constituents are in their tissues
- Counting the types and numbers of different benthic macroinvertebrates in the river adjacent to site

## What do we already know?

- From 2009 to 2011, we have collected benthic macroinvertebrate samples adjacent to and downstream of the plant.
- Scores for benthic macroinvertebrate community structure and diversity were similar during the most recent sampling in August and November 2011.

### What are benthic macroinvertebrates?

Aquatic organisms that live in and on the sediment substrate.

### Why do we study them?

They are an important part of the local food chain, and are good indicators of changes in the environment.



Examples of benthic macroinvertebrates



Nymphs are immature mayflies found in the sediment.

## Proposed EIP Activities

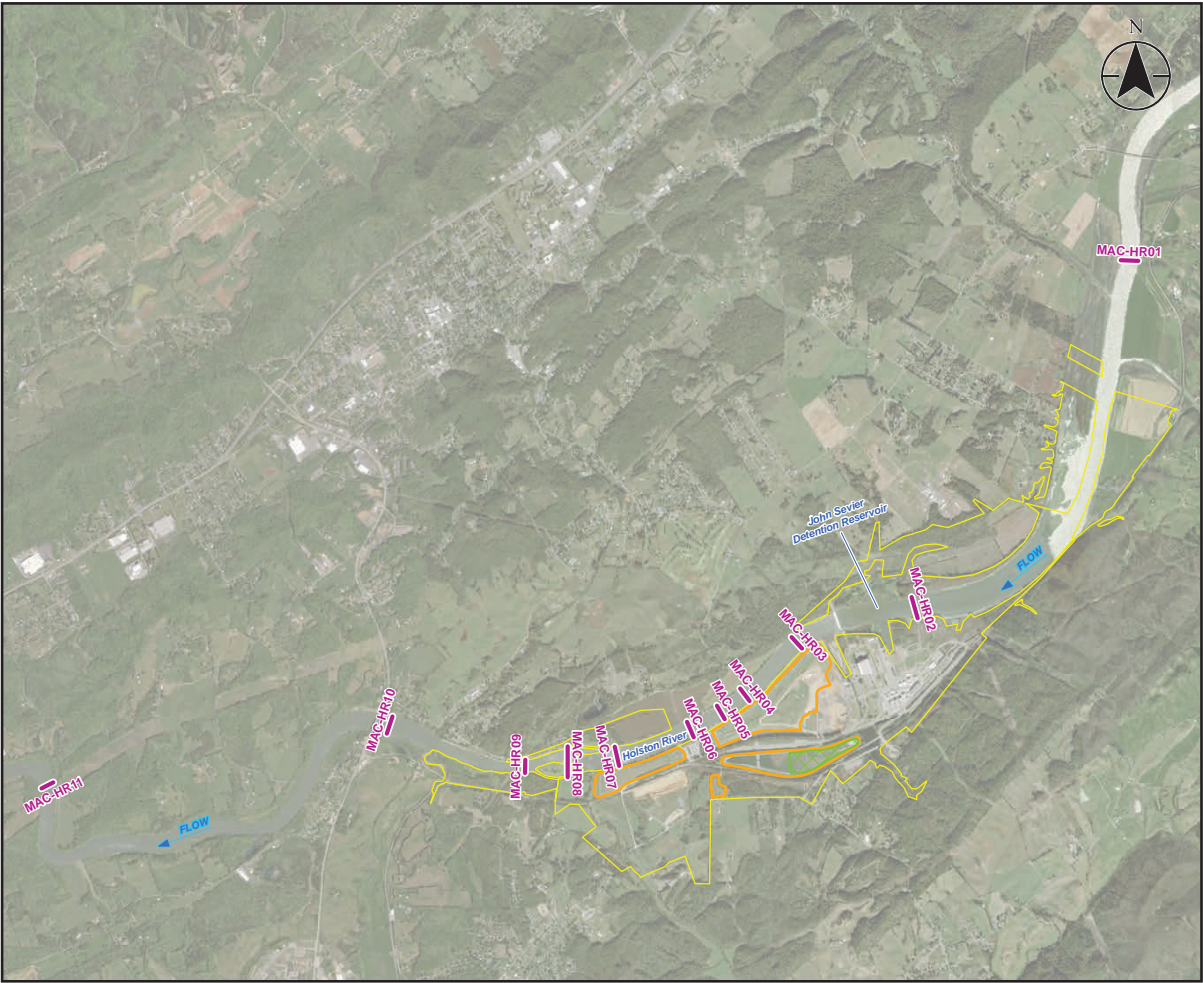
- Collect 5 benthic-macroinvertebrate sediment samples from 11 transect locations for a total of 55 samples
- Collect mayfly nymph samples from submerged sediments and adult mayflies from the surface at multiple locations in 4 designated areas
- Analyze benthic macroinvertebrate samples using community metrics (e.g., abundance and diversity)
- Analyze mayfly samples for CCR-metal constituent levels
- Review existing data for comparative analysis
- Report the analytical results in the Environmental Assessment Report (EAR)



BENTHIC INVESTIGATION-  
BIOLOGICAL STUDIES

Where will the sampling be done?

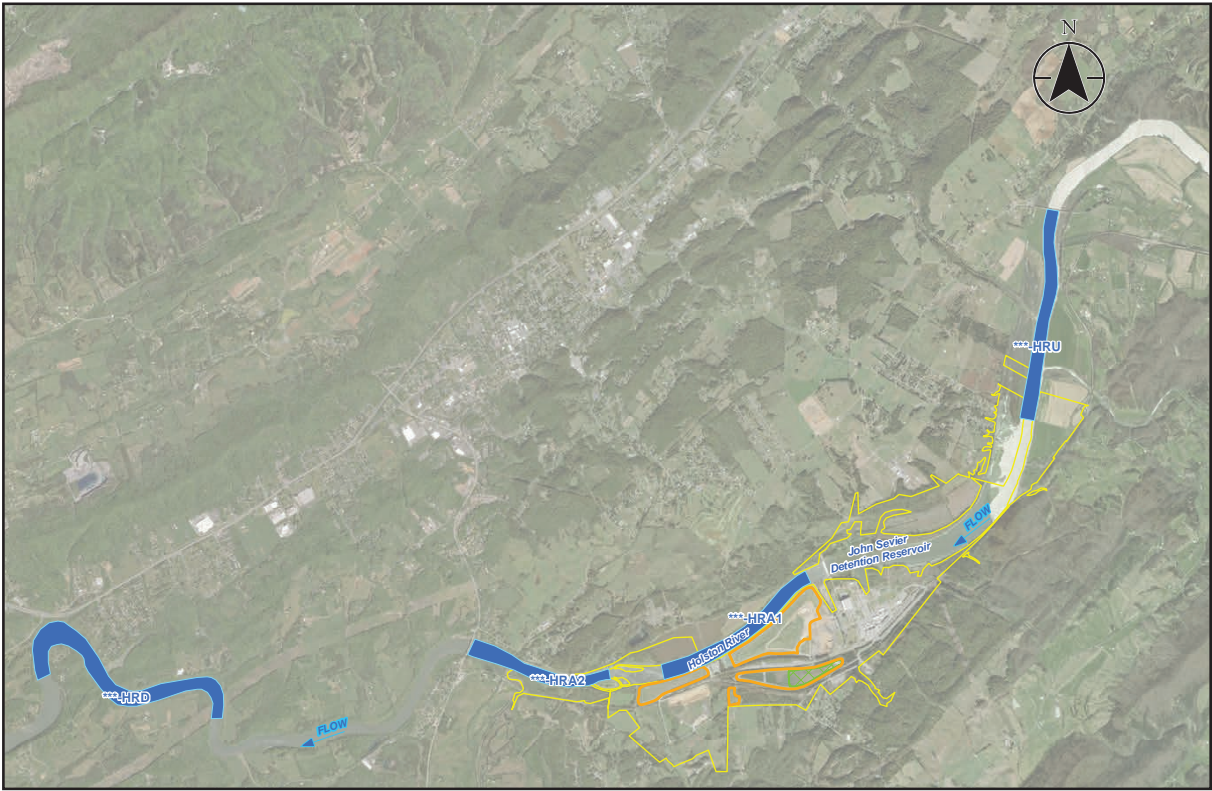
Benthic macroinvertebrate  
sampling transects



Legend

- Benthic Transect
- Consolidated & Capped CCR Area (Approximate)
- CCR Unit Area (Approximate)
- TVA Property Boundary (Approximate)

Mayfly sampling transects:  
adult mayflies & mayfly nymphs



Legend

- Mayfly Sample Location
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)
- TVA Property Boundary (Approximate)



# BENTHIC INVESTIGATION— SEDIMENT STUDIES

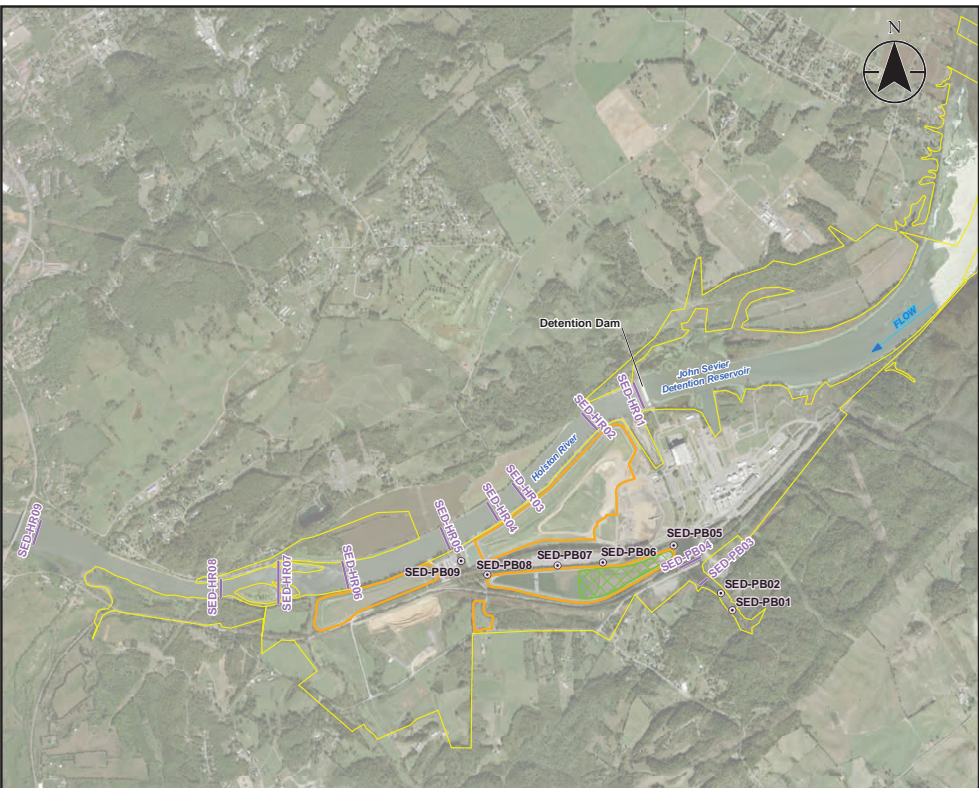
## What it is and why we do it

Sediment samples are taken from the river bottom to determine whether CCR material and/or constituents have migrated from the site to the Holston River and Polly Branch.

## What do we already know?

- No historical sediment sampling information is available for the site.

## Proposed sediment sampling locations



### Legend

- Sediment Sampling Point
- Sediment Sampling Location
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)
- TVA Property Boundary (Approximate)

## Proposed EIP Activities

- Collect 3 sediment samples per transect along 11 transects, and collect sediment samples at 7 sampling points (vs. transects), for a total of 40 sediment samples
- Analyze Phase 1 sediment samples for:
  - CCR constituents (top 6 inches during Phase 1—deeper sediment samples to be held for potential analysis of CCR constituents during Phase 2)
  - Percentage of ash (all sediment samples)
- If ash percentage exceeds 20%, initiate Phase 2
- Phase 2 sampling will analyze deeper sediment samples from Phase 1 for CCR constituents and potential collection of additional sediment samples
- Report the analytical results in the Environmental Assessment Report (EAR)

## FISH TISSUE INVESTIGATION

### What it is and why we do it

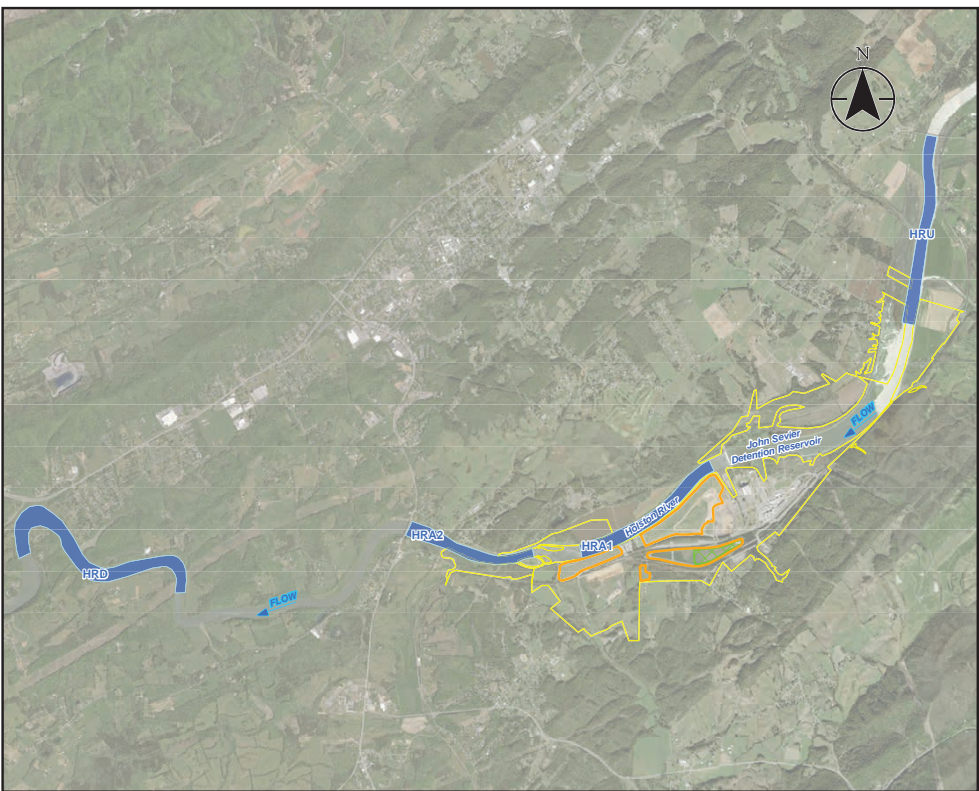
Fish are captured using electrofishing and gill netting and tissue samples are taken.

They are used to test the levels of CCR constituents in fish.

### What do we already know?

- Although fish tissue studies have not been previously conducted, an analysis of the types and numbers of fish in the area has been completed using data collected annually from 2001 to 2003, and in 2011 and 2012, which address the condition of fish populations and communities upstream and downstream of the John Sevier site.
- No evidence of adverse environmental impact has been found.
- Fish communities upstream and downstream of the detention dam were similar to their respective control sites in 2011 and 2012.

### Proposed fish sampling locations



#### Legend

- Fish Sample Location
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)
- TVA Property Boundary (Approximate)

### Electroshock fishing



## Proposed EIP Activities

- Verify the 4 proposed sampling reaches, based on:
  - Access
  - Current hydrogeologic knowledge
  - Greatest expectation of success in capturing target fish species
- Capture target fish species through electrofishing and gill netting at each sampling location
- Remove tissue samples and transport to laboratory
- Analyze fish tissue samples for CCR-constituent levels
- Compare analytical tissue results to upstream reference location
- Report the analytical results in the Environmental Assessment Report (EAR)



# COAL COMBUSTION RESIDUALS MATERIAL CHARACTERISTICS

(1 of 2)

## What it is and why we do it

The different CCR materials on site are tested for levels and types of chemical constituents. This helps us understand whether they leach from (or leave) the ash and enter the water in the CCR units.

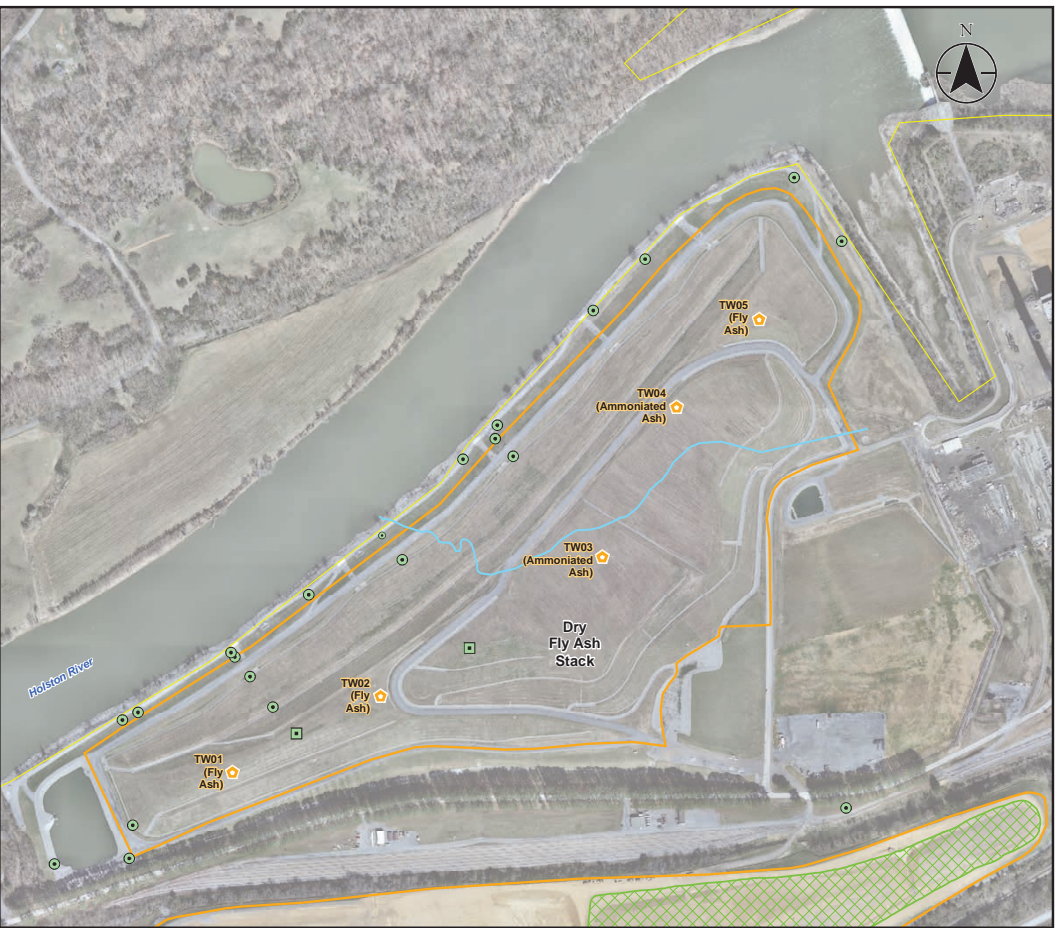
## What do we already know?

Comprehensive studies, using two different methods, were conducted in 1995, 2002, and 2012 to characterize the CCR ash.

The materials sampled include: Dry Fly Ash and Bottom Ash.

Each material is tested for physical and chemical characteristics, including leachability and total metals.

## Proposed temporary wells: Dry Fly Ash Stack



### Legend

- Proposed Temporary Well (screened material)
- Existing Piezometer Open Standpipe
- Existing Piezometer Vibrating Wire
- Historical Stream Channel (Approximate)
- TVA Property Boundary (Approximate)
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)

## Proposed EIP Activities

- During exploratory drilling, collect CCR material (i.e., ash) samples for analytical testing
- Install temporary wells in CCR and collect pore water samples (i.e., water trapped in the materials)
- Analyze ash samples for their leachability potential
- Analyze pore-water samples for CCR-constituent levels
- Review existing data for comparative analysis
- Report the analytical results in the Environmental Assessment Report (EAR)



COAL COMBUSTION RESIDUALS  
MATERIAL CHARACTERISTICS (2 of 2)

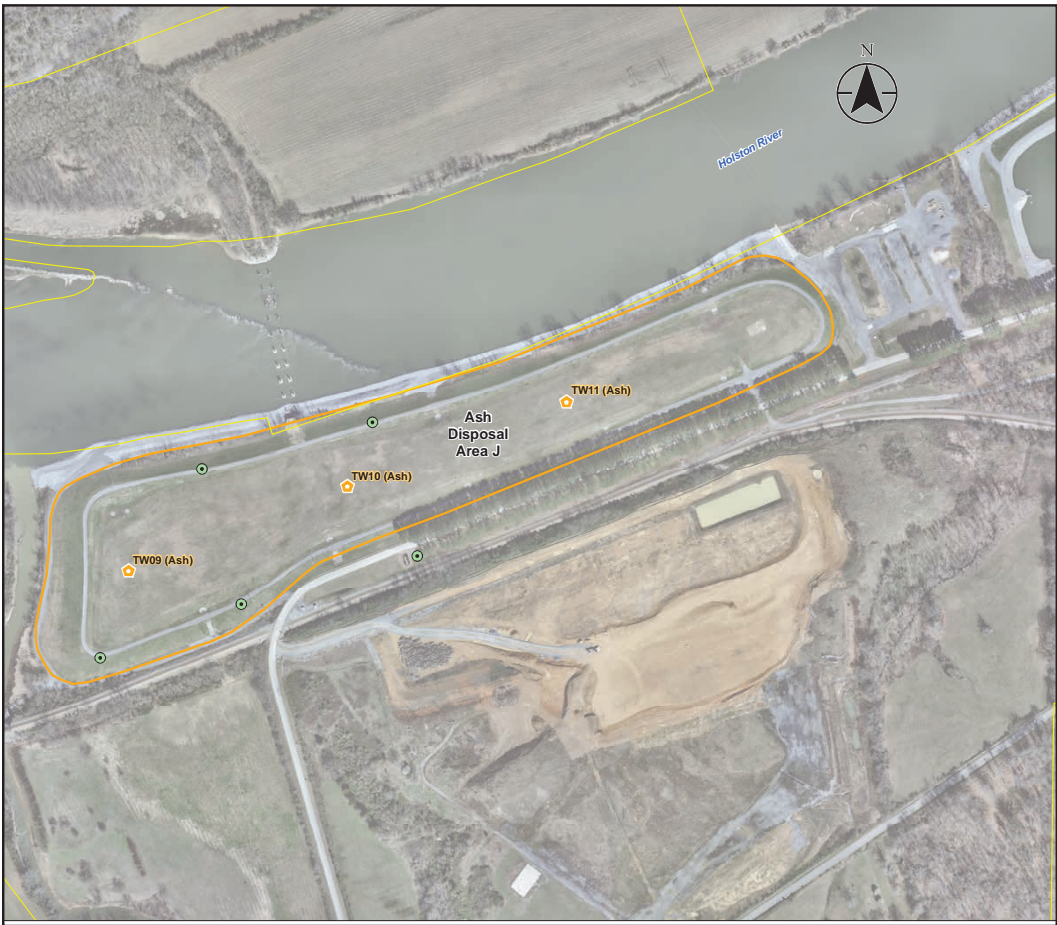
Proposed temporary wells:  
Bottom Ash Pond & Highway 70 Borrow Area



**Legend**

- Proposed Temporary Well (screened material)
- Existing Piezometer Open Standpipe
- Existing Piezometer Vibrating Wire
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)

Proposed temporary wells:  
Ash Disposal Area J



**Legend**

- Proposed Temporary Well (screened material)
- Existing Piezometer Open Standpipe
- TVA Property Boundary (Approximate)
- CCR Unit Area (Approximate)



## SURFACE STREAM INVESTIGATION

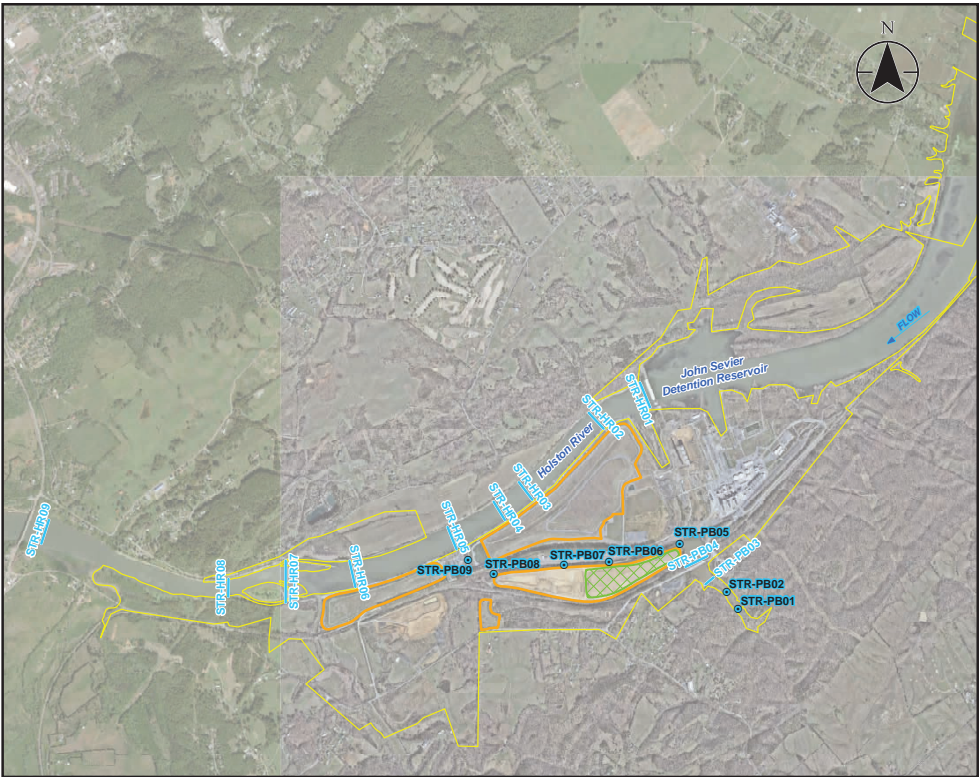
### What it is and why we do it

Surface stream sampling is performed both upstream and downstream to determine if CCR materials and/or constituents have migrated from the site to adjacent water bodies.

### What do we already know?

- Testing of outfall discharge occurs on a regular basis to comply with our National Pollutant Discharge Elimination System (NPDES) permit:
  - Various effluent parameters are sampled on a weekly, monthly, quarterly, and annual basis

### Surface stream sampling locations



#### Legend

- Stream Sampling Point
- Stream Sampling Transect
- CCR Unit Area (Approximate)
- ▨ Consolidated & Capped CCR Area (Approximate)
- TVA Property Boundary (Approximate)

## Proposed EIP Activities

- Collect water samples
- Analyze samples for CCR constituents
- Comparative analysis against upstream samples and existing surface stream data
- Report the analytical results in the Environmental Assessment Report (EAR)



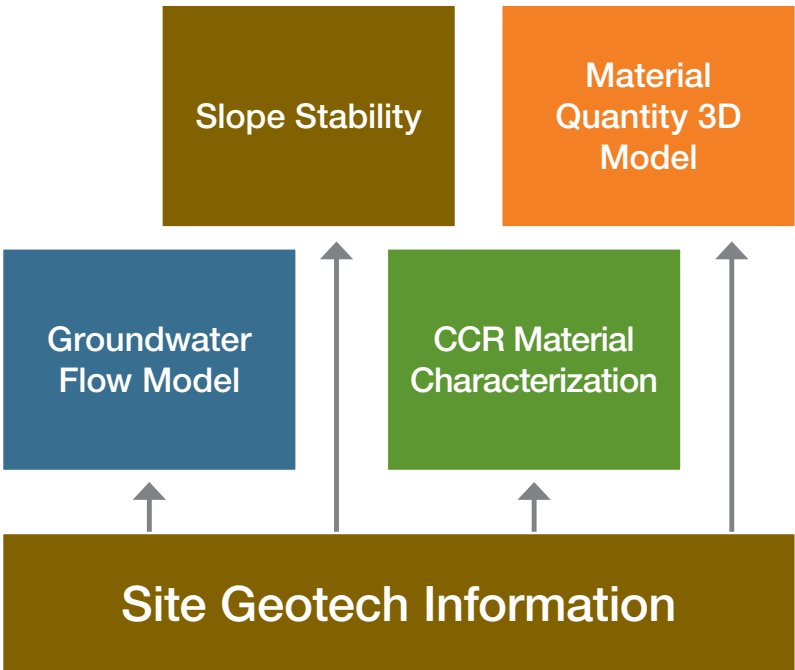
EXPLORATORY DRILLING

What it is and why we do it

Exploratory drilling helps us better understand what is in and under each CCR unit.

It tells us:




- What is there: material types (CCR, soil, rock) and properties (strength, permeability, etc.)
- Where it is (material locations)
- Where the water levels are (material saturation)



What do we already know?

The EIP includes an evaluation of existing geotechnical data. This includes a review of design and construction records, inspection records, field data (including 540+ borings and 120+ water level instruments), laboratory data, and engineering analyses.

Each piece of information has been evaluated to confirm that it was properly collected and analyzed in the past. These existing data are very valuable in understanding CCR unit conditions.



**What are borings?**

Drilled holes from which to take samples of CCR, soil, and rock

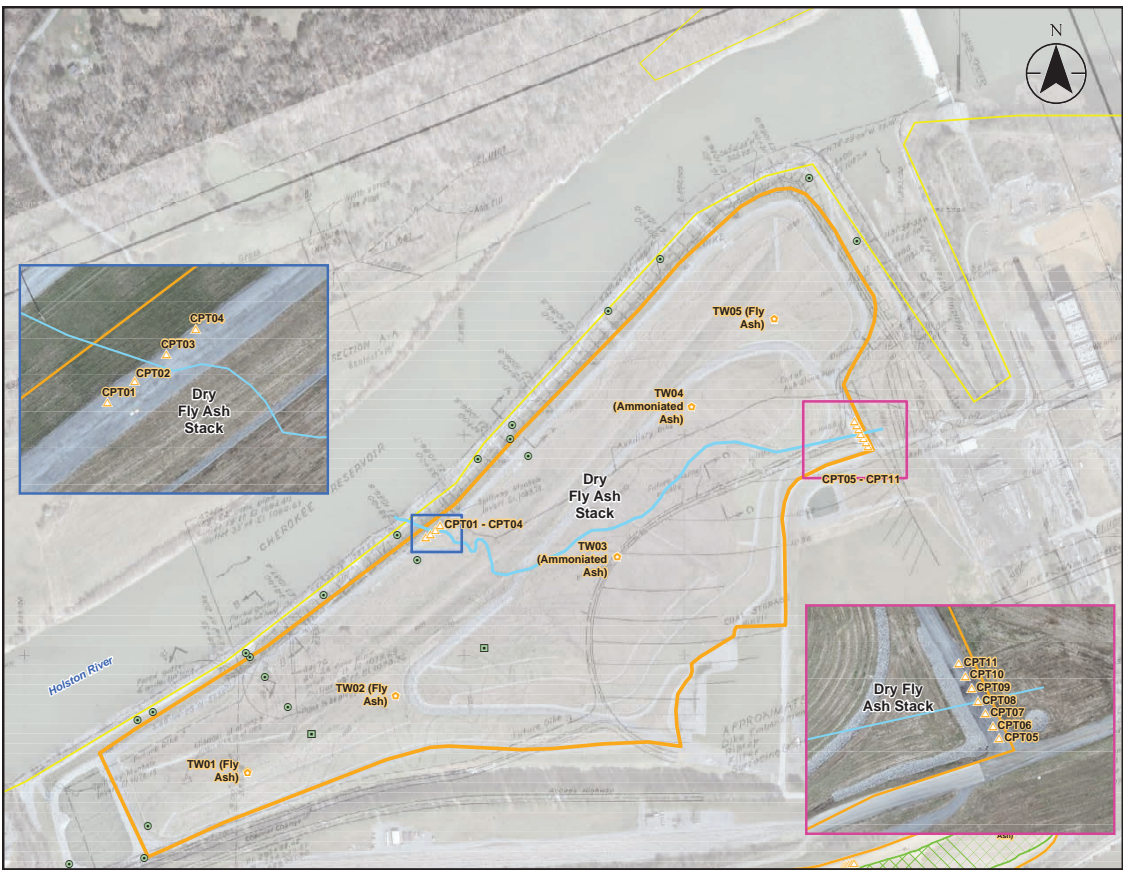
The drilling inspector will prepare boring logs to describe the recovered samples.

Proposed EIP Activities

- Additional borings within the interior of the CCR units
- Install temporary wells in CCR material
- Targeted borings in specific areas along unit borders
- Laboratory testing
- Share data with the hydrogeological, environmental, and civil/mapping discipline teams

EXPLORATORY DRILLING

Where will the drilling be done?

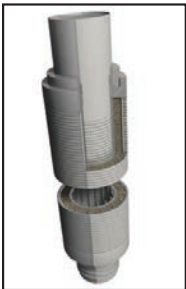


Dry Fly Ash Stack

- 5 Borings with temporary wells
- 11 Cone-penetration tests

**What are water level instruments/piezometers?**

Sensors that measure water pressures in CCR, soil, rock



Slotted well screen



Surface protection for top of well

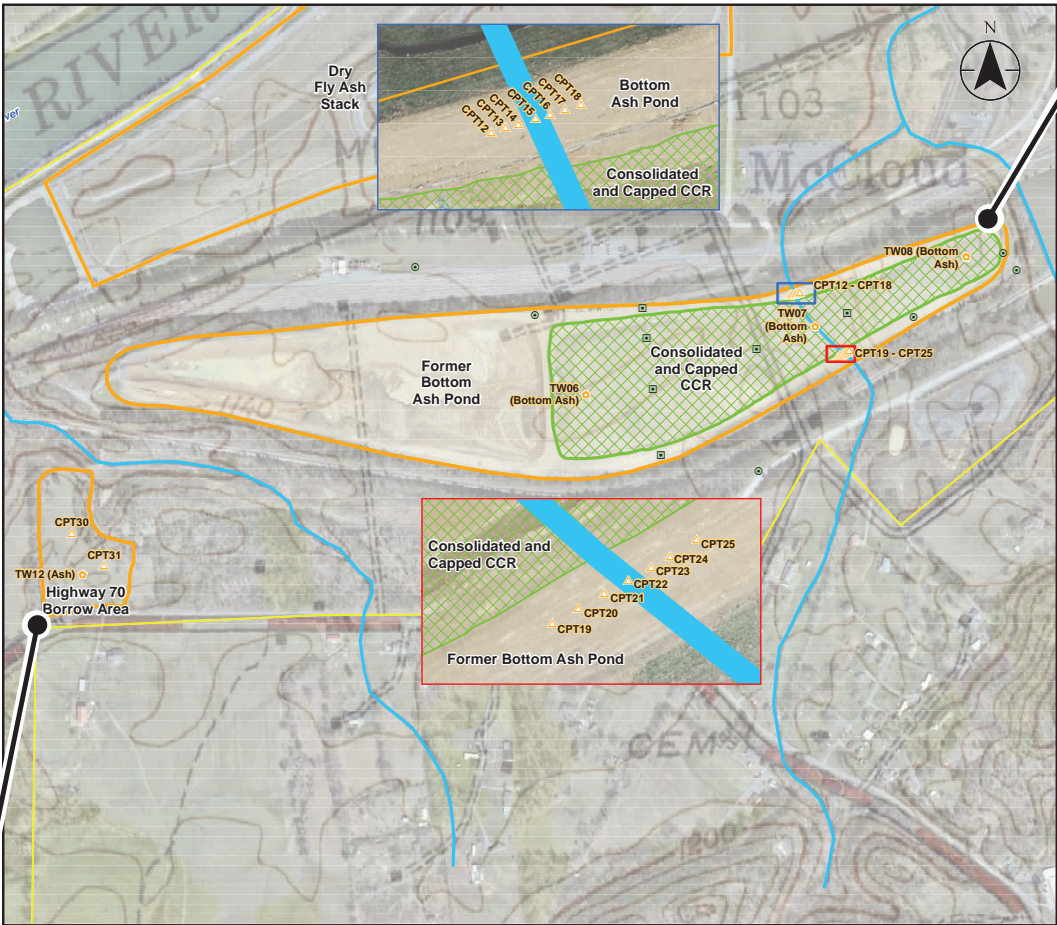
Slotted PVC pipe that allows water to enter at a selected depth in the boring

**What are cone penetration tests?**

- Measure resistance to a pushing cone
- Relate results to estimated engineering soil properties
- Quick, cost-effective

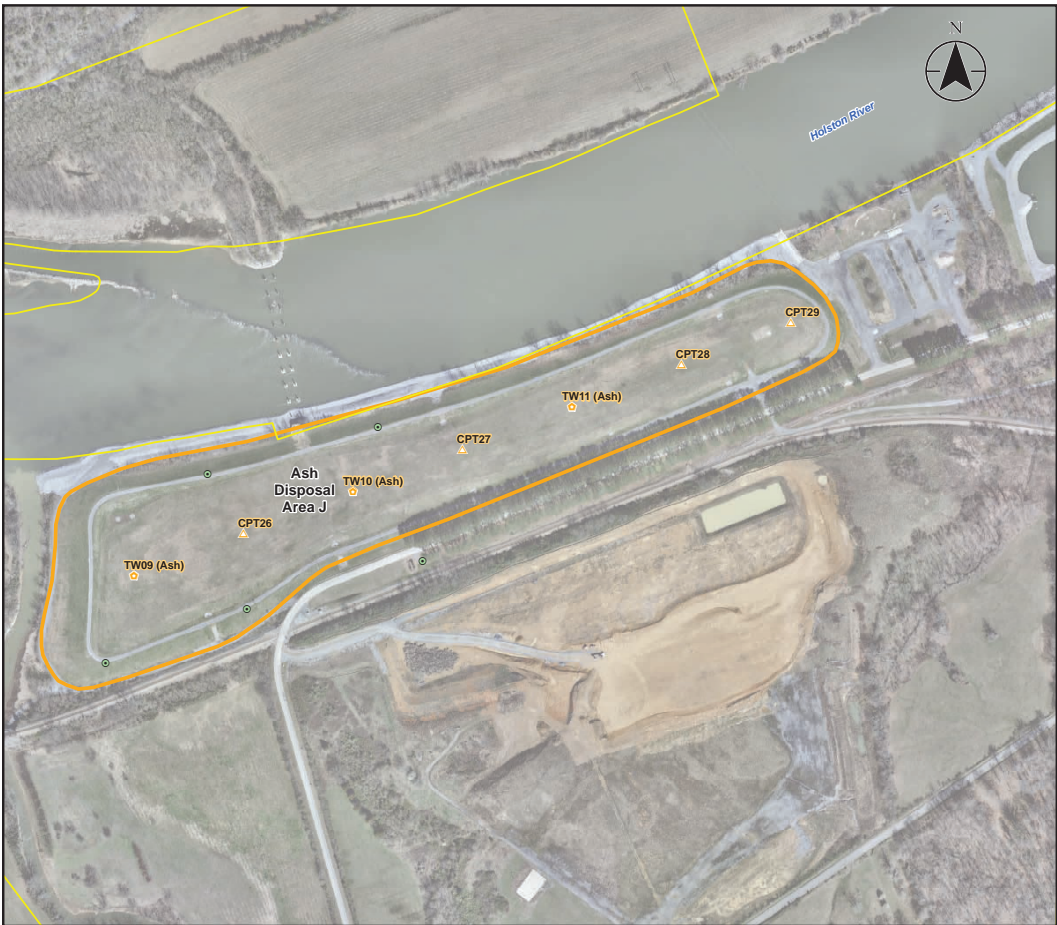






### Highway 70 Borrow Area

- 1 Boring with temporary wells
- 2 Cone-penetration tests



SLOPE STABILITY

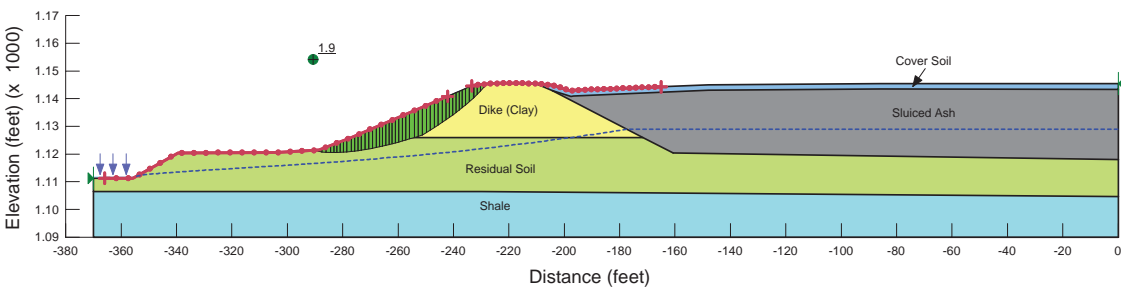
(1 of 3)

What it is and why we do it

These analyses tell us if the slopes of the CCR units are stable. Multiple locations around each CCR unit are checked for stability.

Normal (long-term) conditions and earthquake conditions are evaluated.

Example of existing slope stability analysis



**Inputs:** Surface and subsurface geometry/zones, engineering properties, water levels/pressures, external loads

**Outputs:** Factor of safety against sliding

What do we already know?

Slope stability has been analyzed many times over the years, for various conditions and at multiple units.

The existing analyses were reviewed as part of the evaluation of existing geotechnical data.

Each analysis was reviewed for adequate documentation, appropriate methods, and representative conditions.

Existing and proposed analyses satisfy EIP requirements

CCR Unit	Normal	Earthquake
Dry Fly Ash Stack	E	P
Bottom Ash Pond	E	P
Ash Disposal Area J	E/P	P
Highway 70 Borrow Area	P	P

**E** = Existing analysis    **P** = Proposed analysis

Proposed EIP Activities

- Compare existing models to new data from the Exploratory Drilling Sampling and Analysis Plan
  - If models are representative, no changes
  - If not, update models and reanalyze
- New analyses (for some units) for normal and earthquake conditions
- Compare slope stability results to acceptance criteria



## SLOPE STABILITY

(2 of 3)

### What it is and why we do it

Slope stability is influenced by water levels and pressures (among other factors).

Monitoring water levels also supports the hydrogeologic investigation and the CCR material quantity estimate (saturated vs. unsaturated material).

### What do we already know?

TVA has multiple types of water level instruments on site, as well as a number of monitoring wells, to track water levels in many areas. These instruments have been installed over many years, for various purposes. More than 70 water level instruments (including piezometers) are currently installed.

TVA has operated an Instrumentation Monitoring Program since 2012 that includes automated and manual readings of select piezometers. These monitoring instruments will send warnings to site personnel if water levels rise enough to start affecting slope stability.

Data are routinely assessed and correlated to rainfall, river levels, etc.

### Existing instrumentation Dry Fly Ash Stack



#### Legend

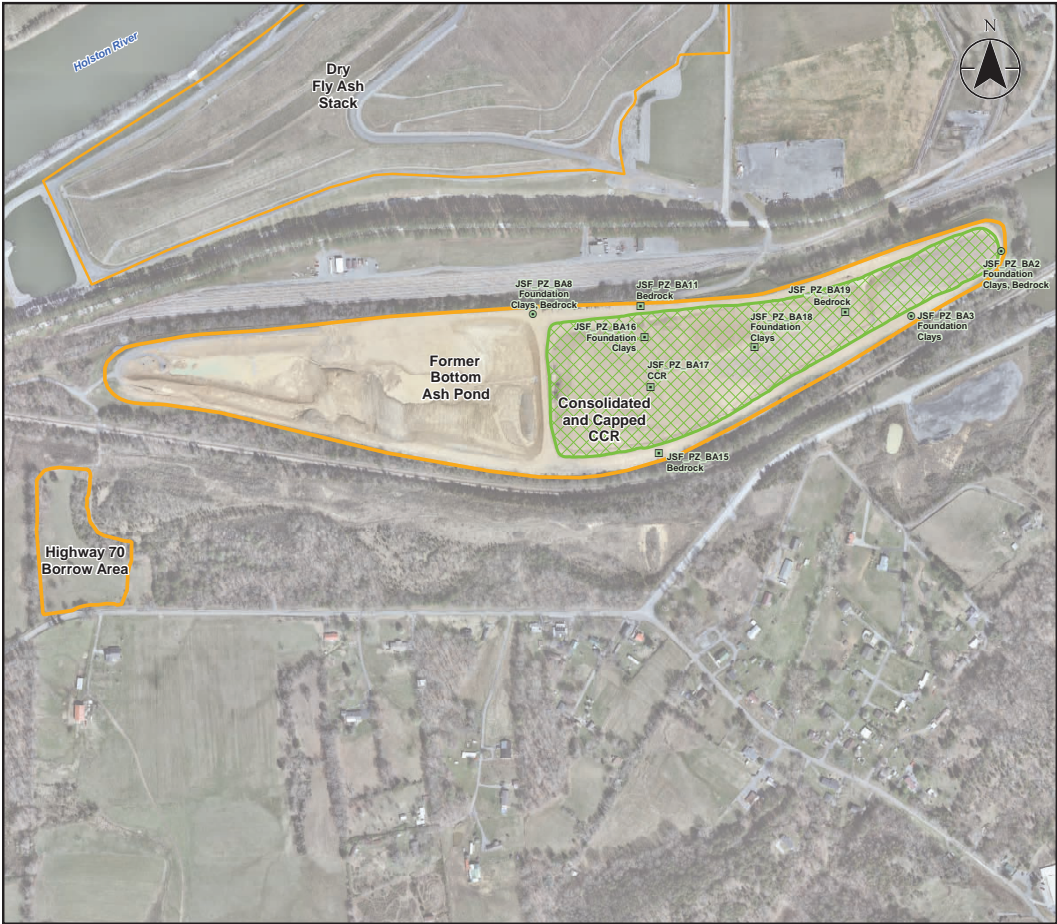
- Existing Piezometer Open Standpipe (Screened Interval)
- Existing Piezometer Vibrating Wire (Tip Interval)
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)

## Water level instrumentation

- New instruments are added:
  - due to the Exploratory Drilling Sampling and Analysis Plan
  - due to the Hydrogeological Investigation Sampling and Analysis Plan (monitoring wells)



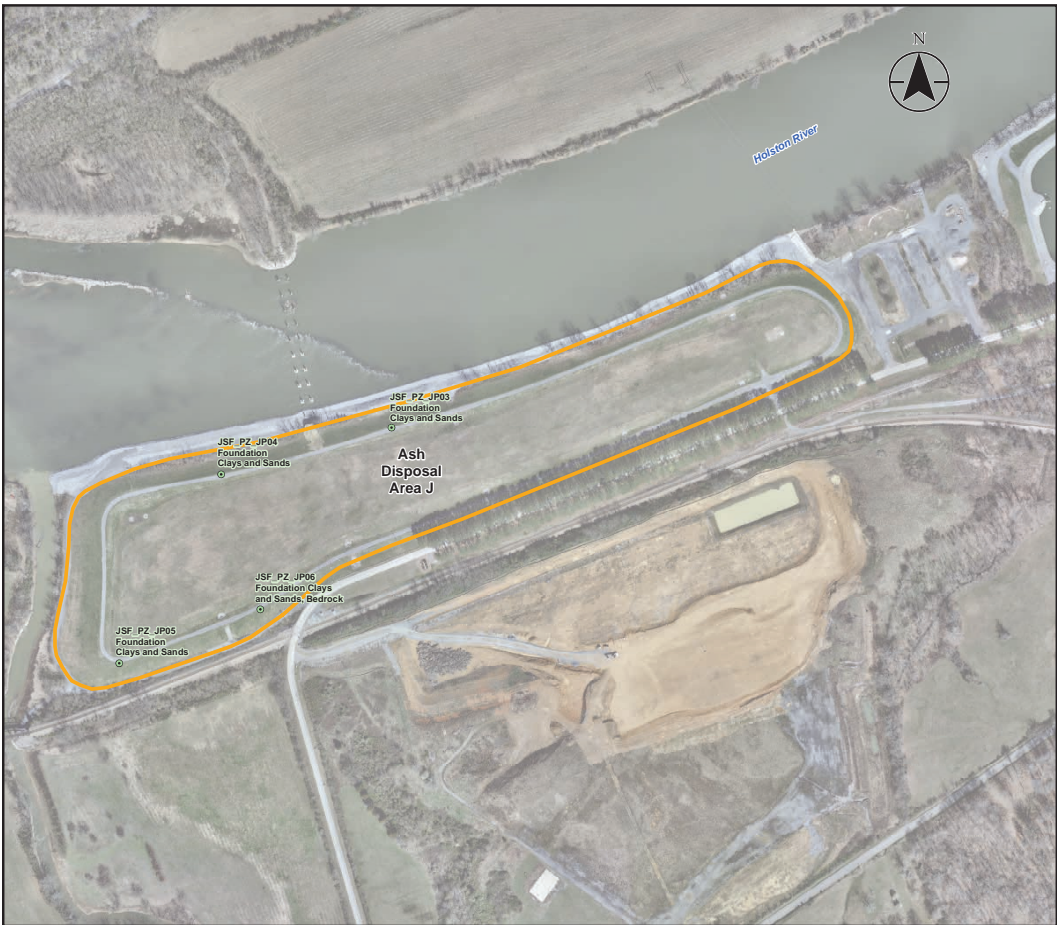
Existing instrumentation:  
Bottom Ash Pond & Highway 70 Borrow Area



Legend

- Existing Piezometer Open Standpipe (Screened Interval)
- Existing Piezometer Vibrating Wire (Tip Interval)
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)

Existing instrumentation:  
Ash Disposal Area J



Legend

- Existing Piezometer Open Standpipe (Screened Interval)
- CCR Unit Area (Approximate)



HYDROGEOLOGIC INVESTIGATION

What it is and why we do it

Hydrogeologic investigations help us better understand how groundwater moves in a particular area, as well as its interaction with the surrounding soils and rocks.

These investigations consist of installing groundwater monitoring wells to collect information about groundwater.

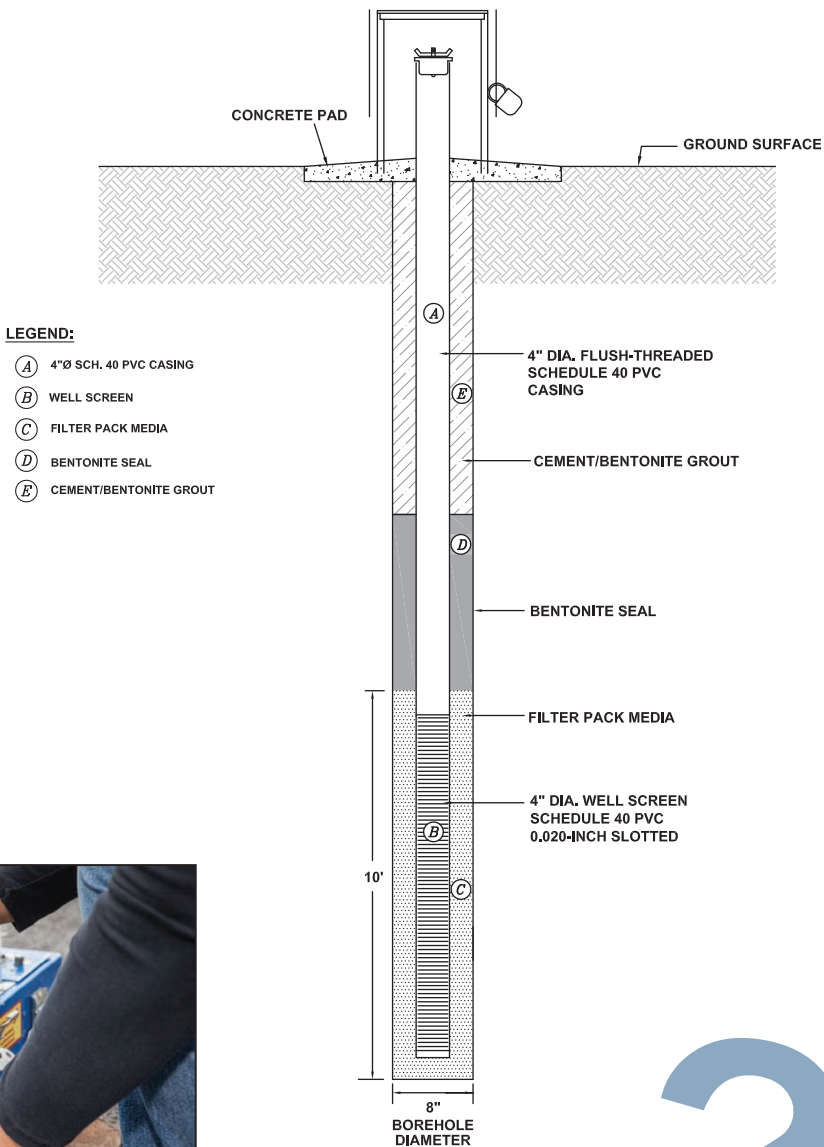
Background (i.e., unaffected by the John Sevier site) and downgradient wells are used to study water quality changes.

What do we already know?

Several hydrogeological investigations have been conducted at the John Sevier site to monitor groundwater quality and flow direction in the area of the Dry Fly Ash Stack and Bottom Ash Pond. Additional investigations are needed at Ash Disposal Area J and the Highway 70 Borrow Area.



Groundwater monitoring well



What is a groundwater monitoring well?

A well specially designed and installed to obtain representative groundwater quality samples and hydrogeologic information.

Proposed EIP Activities

- Additional monitoring wells will be installed to supplement current groundwater monitoring well networks to further investigate groundwater quality and flow direction:
  - 2 background monitoring wells
  - 6 downgradient monitoring wells
- Report the analytical results in the Environmental Assessment Report (EAR)

# GROUNDWATER INVESTIGATION

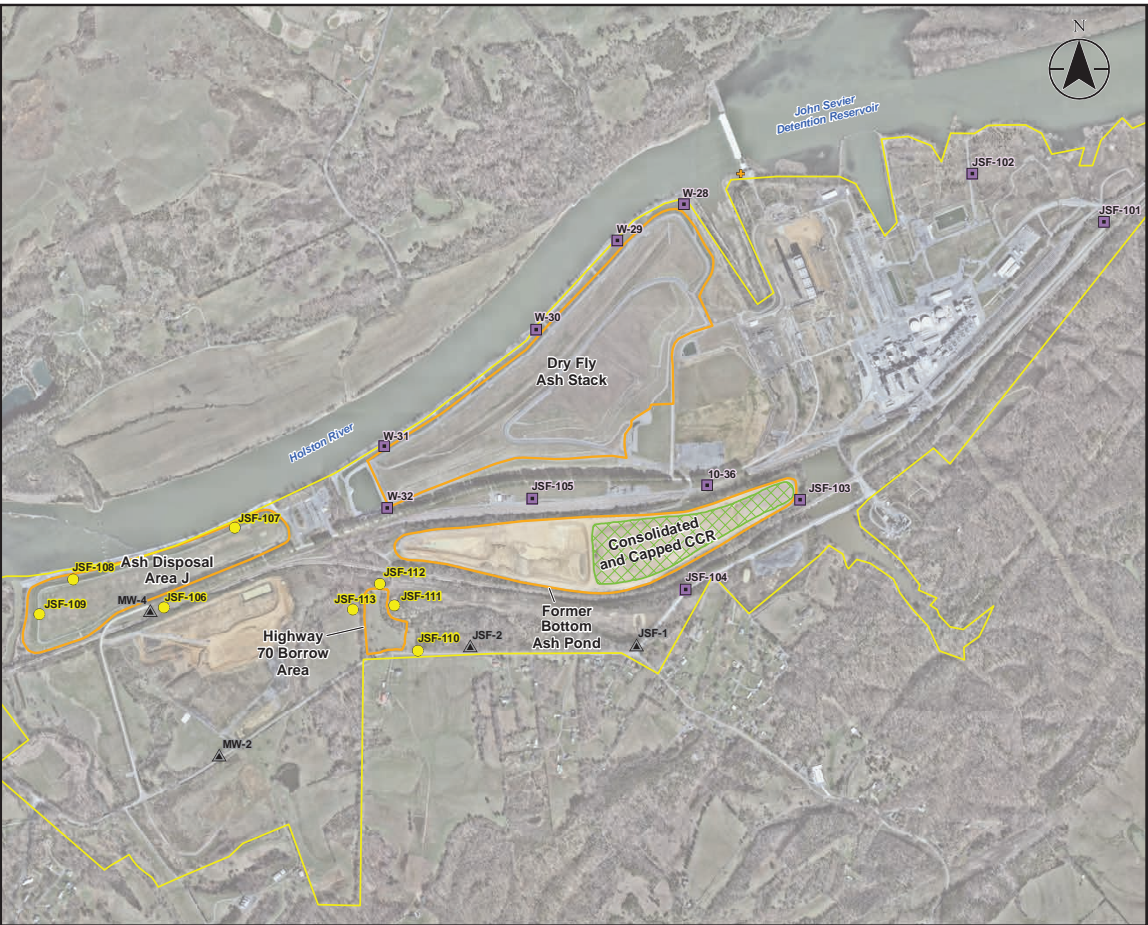
## What it is and why we do it

Groundwater samples are collected frequently to test for a number of quality measures. By testing groundwater regularly, TVA can track compliance with regulatory permits and requirements.

## What do we already know?

Groundwater has been monitored at the John Sevier site since 1986. Monitoring currently consists of state-permit compliance sampling for the Dry Fly Ash Stack.

## Proposed groundwater well locations



### Legend

- River Gauge
- Existing Groundwater Monitoring Well
- Existing Observation Well
- Proposed Groundwater Monitoring Well
- TVA Property Boundary
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)

## Proposed EIP Activities

- Bimonthly groundwater monitoring for 1 year (6 events)
- Sample 8 new wells
- Groundwater samples will be collected from background and downgradient locations
- Conduct an investigation to understand the movement of groundwater
- Investigate how the ash storage units affect groundwater movement and quality



## WATER USE SURVEY

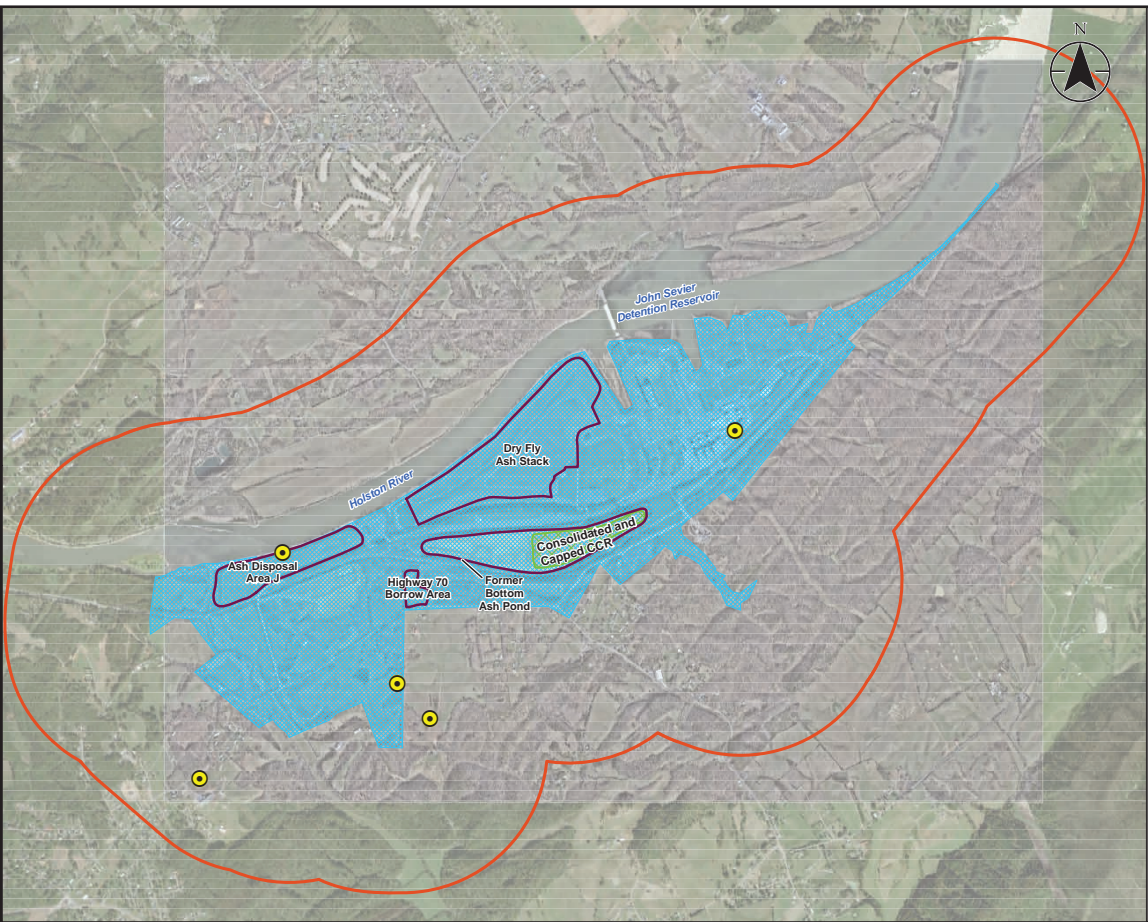
### What it is and why we do it

A water use survey is a search for private water supplies (e.g., wells, springs) within a 1/2-mile radius of the John Sevier Plant. It is used to evaluate the quality of groundwater used in these private wells.

### What do we already know?

A water use survey was conducted in 2015. Five well locations were identified within a 1/2-mile radius of the John Sevier site. The purpose of the water use survey was to understand local groundwater quality and measure if CCR are influencing the local groundwater supply.

### Water supply wells



**Legend**

- Water Supply Wells to be Verified
- JSF Parcel 1/2 Mile Buffer
- CCR Unit Area (Approximate)
- Consolidated & Capped CCR Area (Approximate)
- TVA Property Boundary

## Proposed EIP Activities

- Review existing information on private water wells and springs
- Update previous studies by reviewing state database and water supply information for the City of Rogersville
- Confirm the existence and use of previously identified well locations
- Report the analytical results in the Environmental Assessment Report (EAR)

# BACKGROUND SOIL INVESTIGATION

## What it is and why we do it

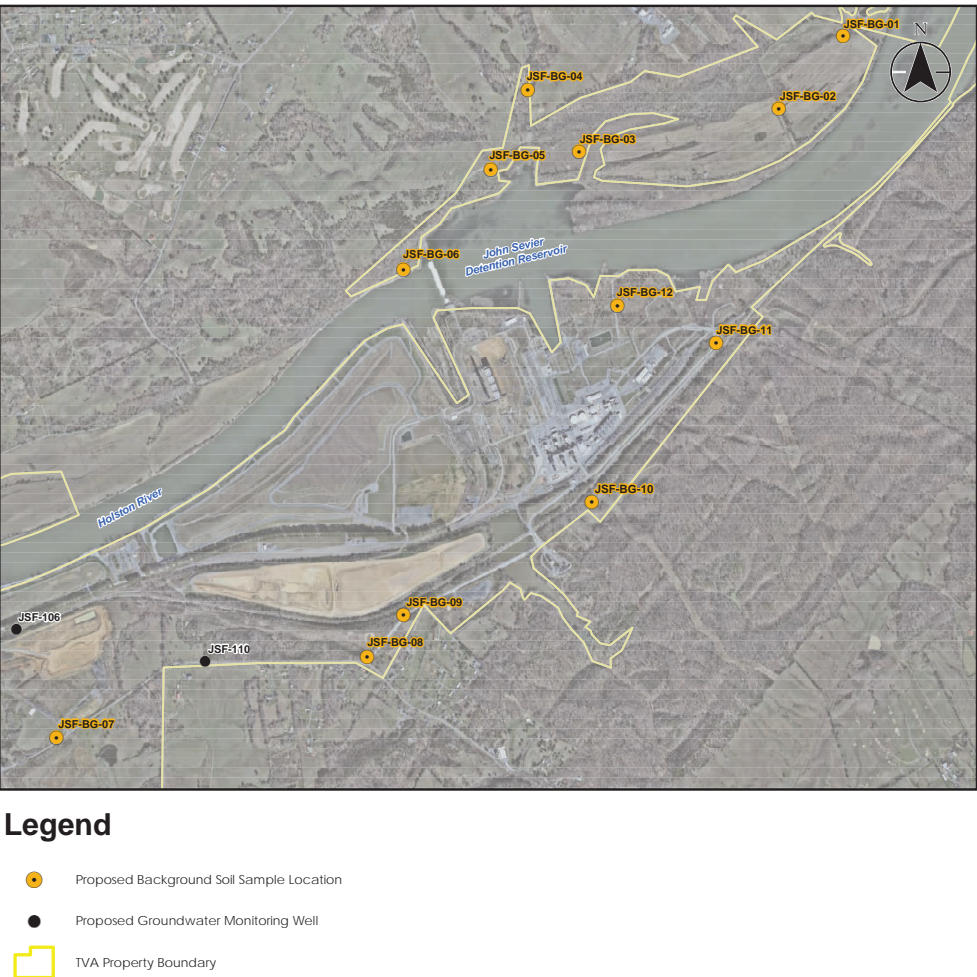
The constituents found in CCR are also found in nature. This investigation would detect CCR constituent levels in background soils.

These levels can be compared to other soils to determine if they are higher than natural levels and used to determine if CCR constituents are naturally occurring in native soils.

## What do we already know?

Background soil samples were collected during the installation of two background monitoring wells. These data will be reviewed for inclusion with the set of data gathered during implementation of the investigation.

## Proposed background soil sampling locations



## Proposed EIP Activities

- Identify a minimum of 12 sampling locations for representative background soils
- Use a drill rig to collect soil samples
- Collect background soil samples and submit to analytical laboratory for analysis of CCR constituent levels
- Report the analytical results in the Environmental Assessment Report (EAR)