APPENDIX D –
CCR MANAGEMENT UNIT
CROSS SECTIONS

Exhibit No.

D-1

Title

Cross Section Transect Map

Client/Project

Tennessee Valley Authority
Kingston Fossil (KIF) Plant TDEC Order

Project Location

Roane County, Tennessee

175668043
Prepared by DMB on 2023-09-11
Technical Review by MD on 2023-09-11

0 300 600 900 1,200 Feet

1:3,600 (At original document size of 22x34)

Legend

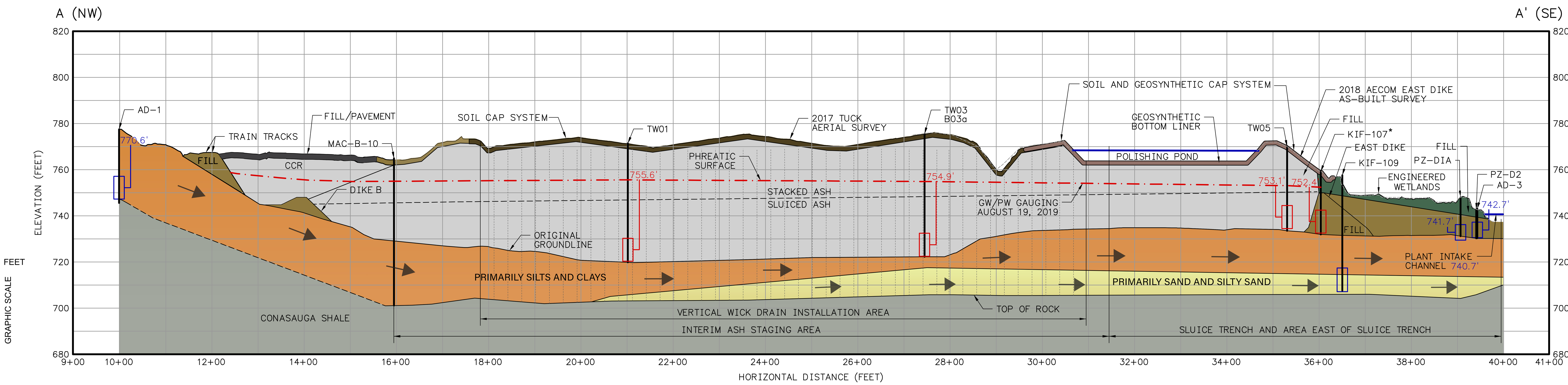
- Cross Section Alignment
- Existing Boring
- Groundwater Investigation Monitoring Well
- Other Monitoring Well
- Piezometer
- Pore water Piezometer in CCR Material
- Temporary Well within CCR Material
- Emory River Gauging Station
- Subsurface Wall
- CCR Unit Area (Approximate)
- Engineered Wetlands Area (Approximate)

CCR: Coal combustion residuals

Notes

1. Coordinate System: NAD 1927 StatePlane Tennessee FIPS 4100
2. Imagery provided by Esri World Imagery

Stantec TVA



KIF Section A–A'

0 100 200 FEET

GRAPHIC SCALE

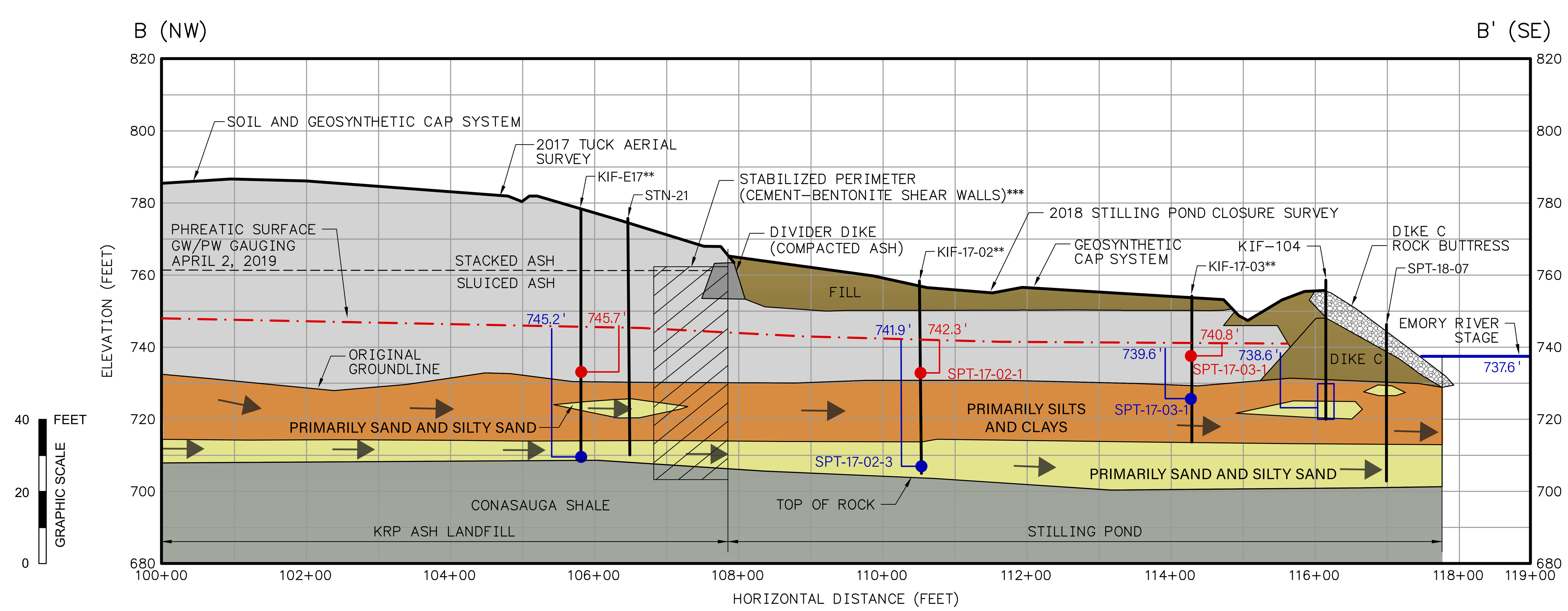
Screen interval showing pore water pressure expressed in feet of elevation (August 19, 2019)

Screen interval showing groundwater pressure expressed in feet of elevation (August 19, 2019)

Vertical Wick Drain Installation Area

General Groundwater flow direction

* The results of the polarized light microscopy analysis indicated that a 3-foot-thick interval consisting of 30% to 38% CCR material existed within the screened interval from approximately 9.0 to 12.0 feet below ground surface. The analytical results of water samples collected from well KIF-107 are thus found to be representative of pore water, not groundwater. See Chapter 5.2.3.1 of the EAR for additional details.



KIF Section B–B'

0 100 200 FEET

GRAPHIC SCALE

Screen interval showing groundwater pressure expressed in feet of elevation (April 2, 2019)

Piezometer sensor showing pore water elevation pressure expressed in feet (April 2, 2019)

Piezometer sensor showing groundwater elevation pressure expressed in feet (April 2, 2019)

General Groundwater flow direction

** KIF-17-02, KIF-17-03, and KIF-E17 are projected laterally onto the cross section.

*** Please see Exhibit 1-2 for shear wall alignment.

Exhibit No.

D-2

Title

CROSS-SECTIONS

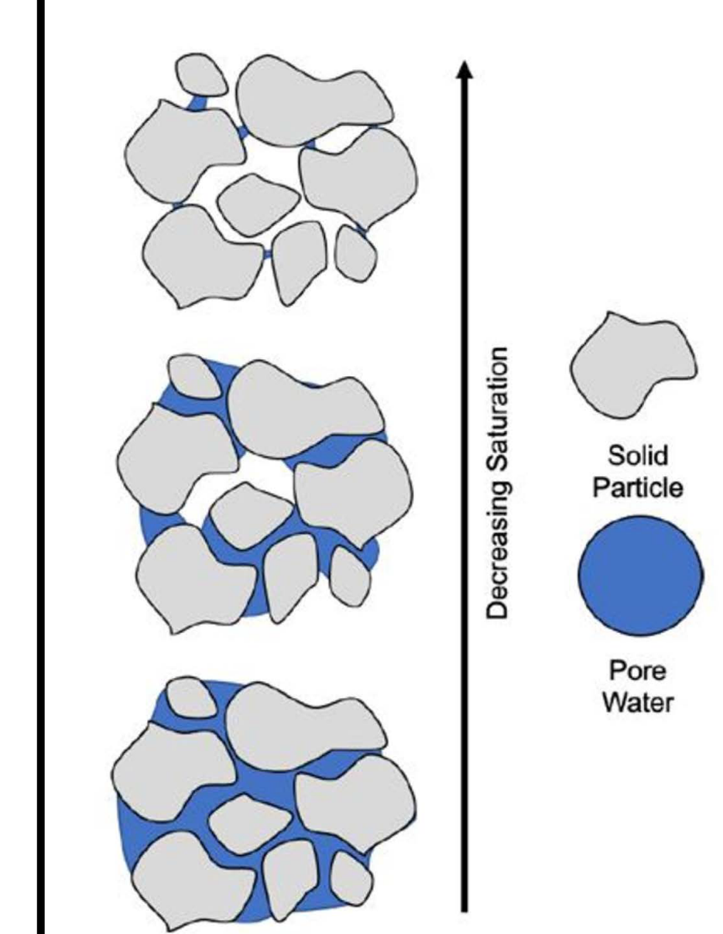
Client/Project

Tennessee Valley Authority
Kingston Fossil (KIF) Plant TDEC Order

Project Location 175568043

Roane County, Tennessee

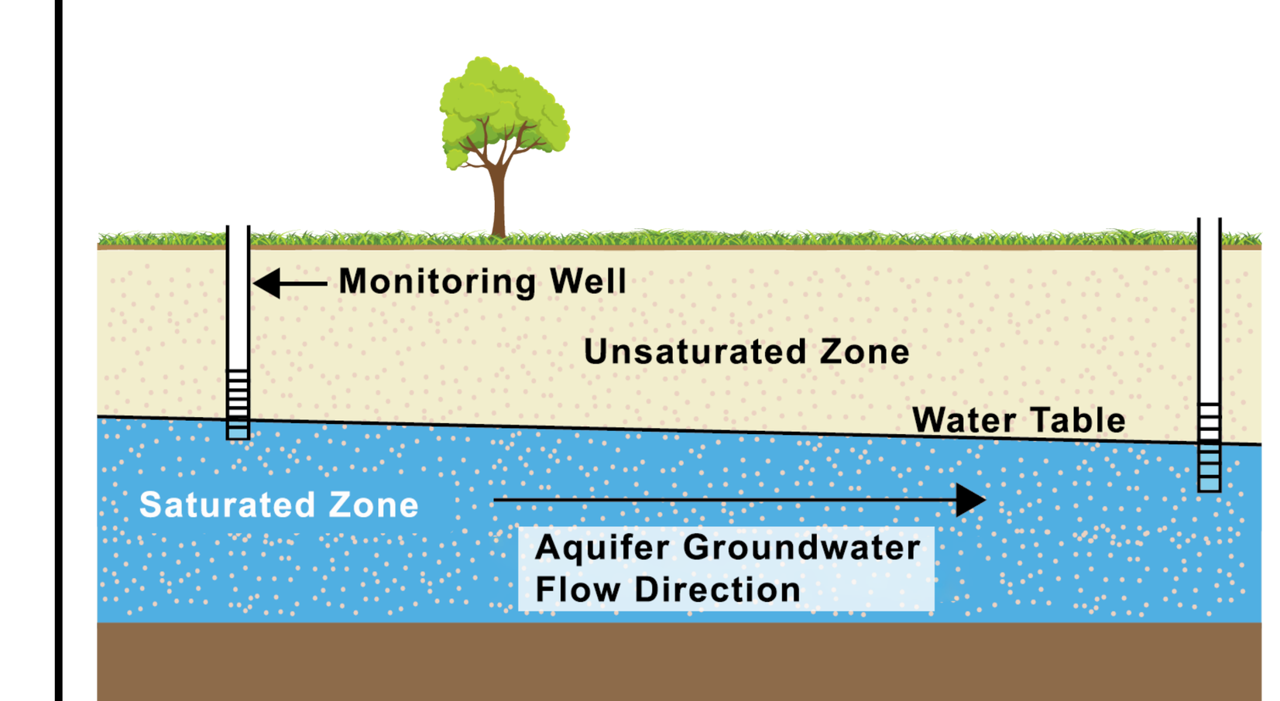
Prepared by KB on 2023-09-25
Technical Review by MD on 2023-09-07



This figure depicts how subsurface water occurs in CCR material (referred to as 'pore water' in this EAR), and how saturation varies within the CCR material. The phreatic surface is the surface of pore water at which pressure is atmospheric and below which CCR material may be saturated with pore water.

Groundwater is subsurface water that occurs in pore spaces in soil or bedrock. Groundwater generally flows much more slowly than in surface stream or river water.

Figure Reference: Benson, C., Water Flow in Coal Combustion Products and Drainage of Free Water, Report No. 3002021963, Electric Power Research Institute , Palo Alto, CA.



Groundwater is subsurface water that occurs in pore spaces in soil or bedrock. Groundwater level measurements taken in a well screened near the water table in an unconfined aquifer represent the water level in the aquifer. Groundwater level measurements are used to estimate directions of groundwater movement. Groundwater generally flows much more slowly than water in a surface stream or river.

Notes

1. Elevations are in feet amsl