

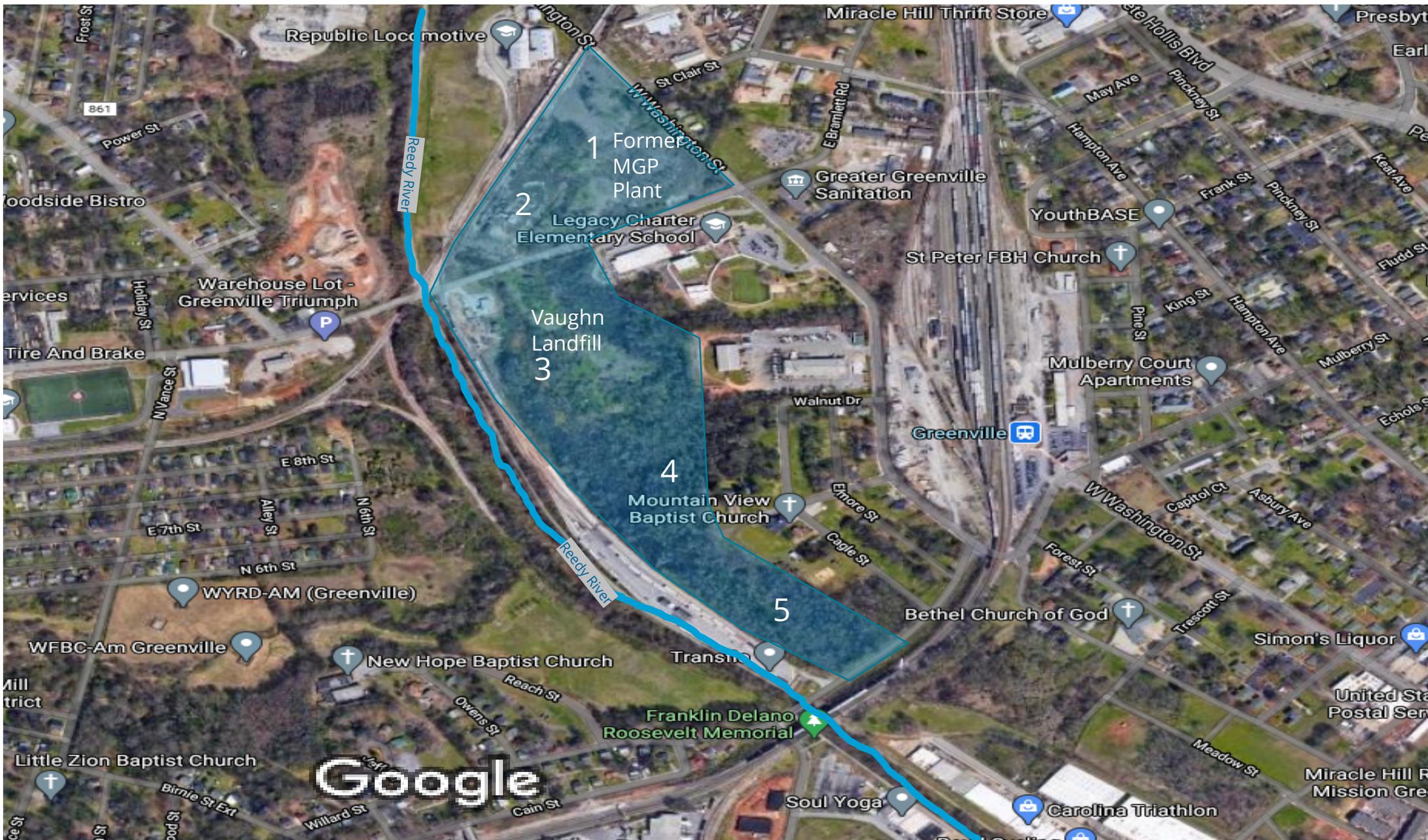


# CSXT Bramlett Road MGP Site Update

Lucas Berresford, Manager  
State Voluntary Cleanup Program

## Stay Connected



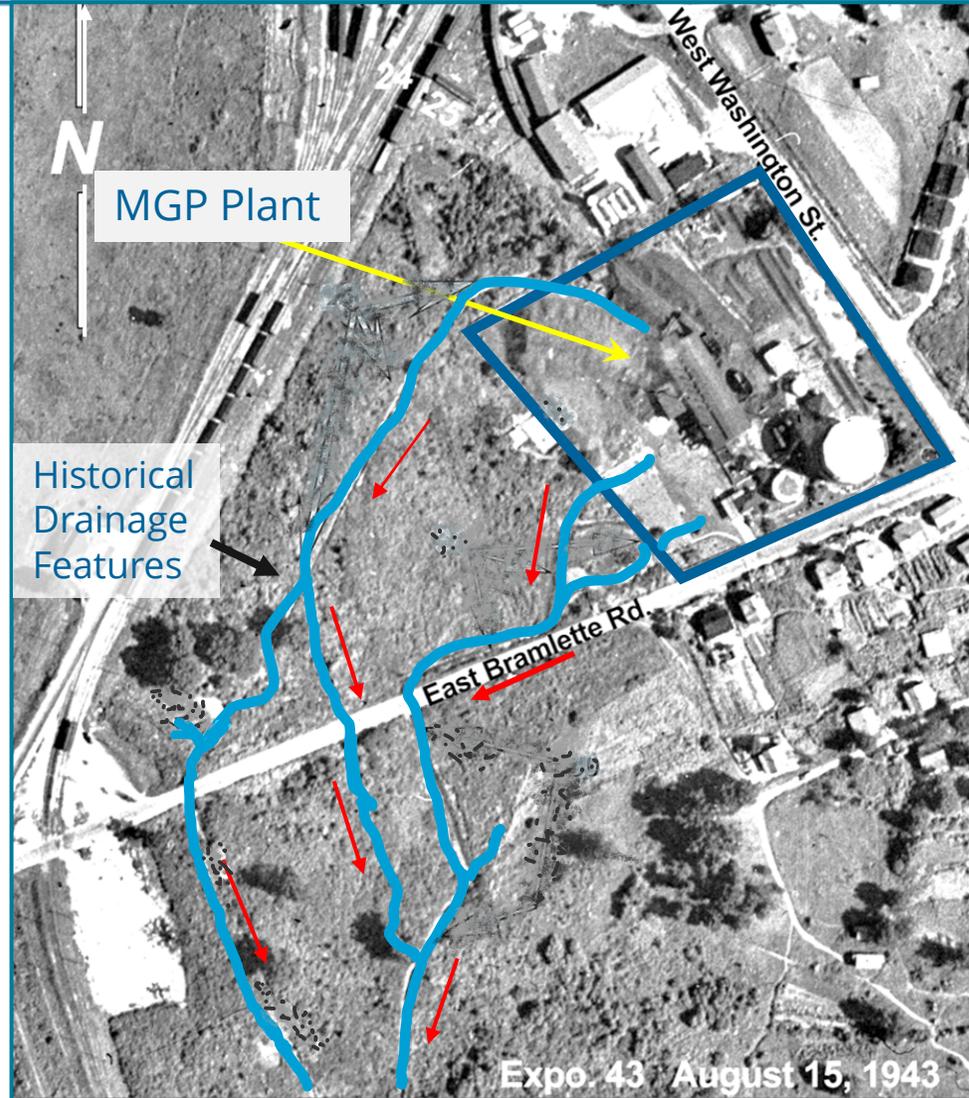


as, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020 City of 500 ft

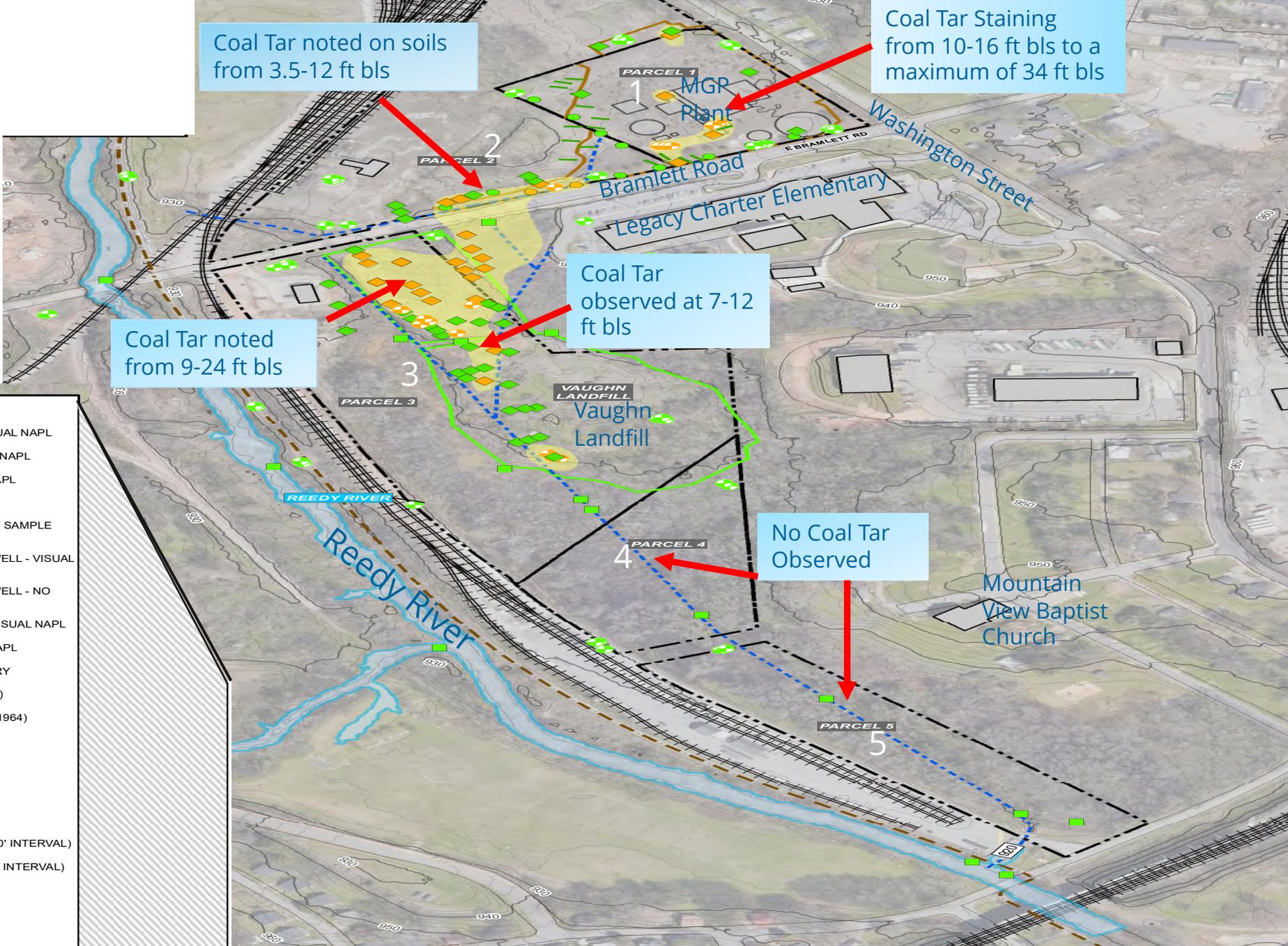
# Site History

- Manufactured Gas Plant (MGP) Operated from 1917 to 1952
- 5.5 Billion cubic feet of gas produced at Bramlett
- 4 million gallons of coal tar produced from 1922-1952
- MGP Demolished in 1958
- Historical drainage features
- Migration pathway from MGP toward the south

 = Drainage Flow Direction



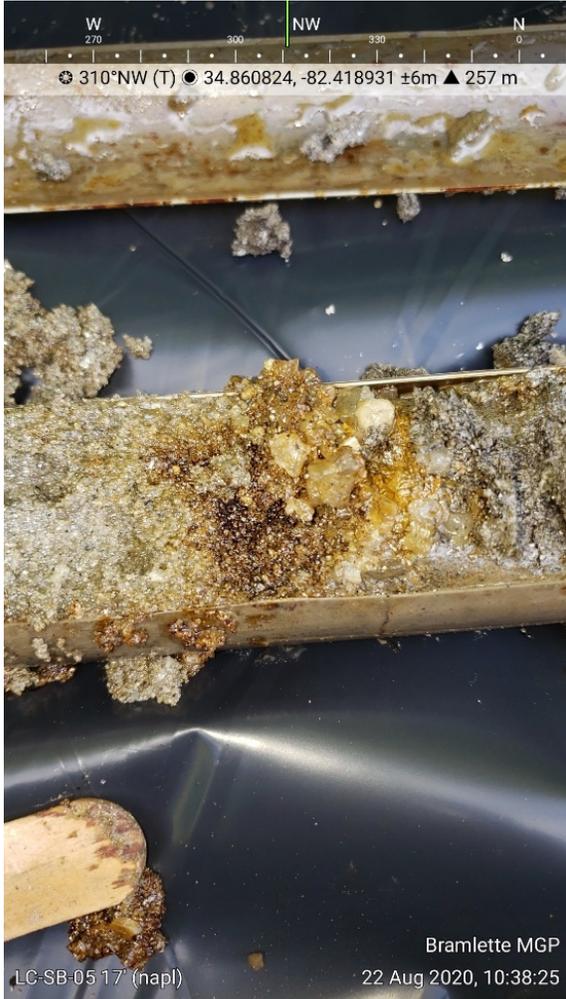
# Visually Observed Coal Tar



**LEGEND**

- ⊕ MONITORING WELL - NO VISUAL NAPL
- ⊕ MONITORING WELL - VISUAL NAPL
- ◆ SOIL BORING - NO VISUAL NAPL
- ◆ SOIL BORING - VISUAL NAPL
- SURFACE WATER/ SEDIMENT SAMPLE LOCATION - NO VISUAL NAPL
- TEMPORARY MONITORING WELL - VISUAL NAPL
- TEMPORARY MONITORING WELL - NO VISUAL NAPL
- APPROXIMATE EXTENT OF VISUAL NAPL
- TEST PIT LINE- NO VISUAL NAPL
- VAUGHN LANDFILL BOUNDARY
- EXCAVATED AREA (2001-2002)
- FORMER DRAINAGE DITCH (1964)
- HYDROLOGY
- FORMER MGP OPERATIONAL STRUCTURES
- BUILDING
- PARCEL BOUNDARY
- TOPOGRAPHIC CONTOUR (10' INTERVAL)
- TOPOGRAPHIC CONTOUR (2' INTERVAL)
- SWAMP RABBIT TRAIL
- ROAD
- RAILROAD

# Visually Observed Coal Tar



## Visually Observed Coal Tar

Oil-Like Material



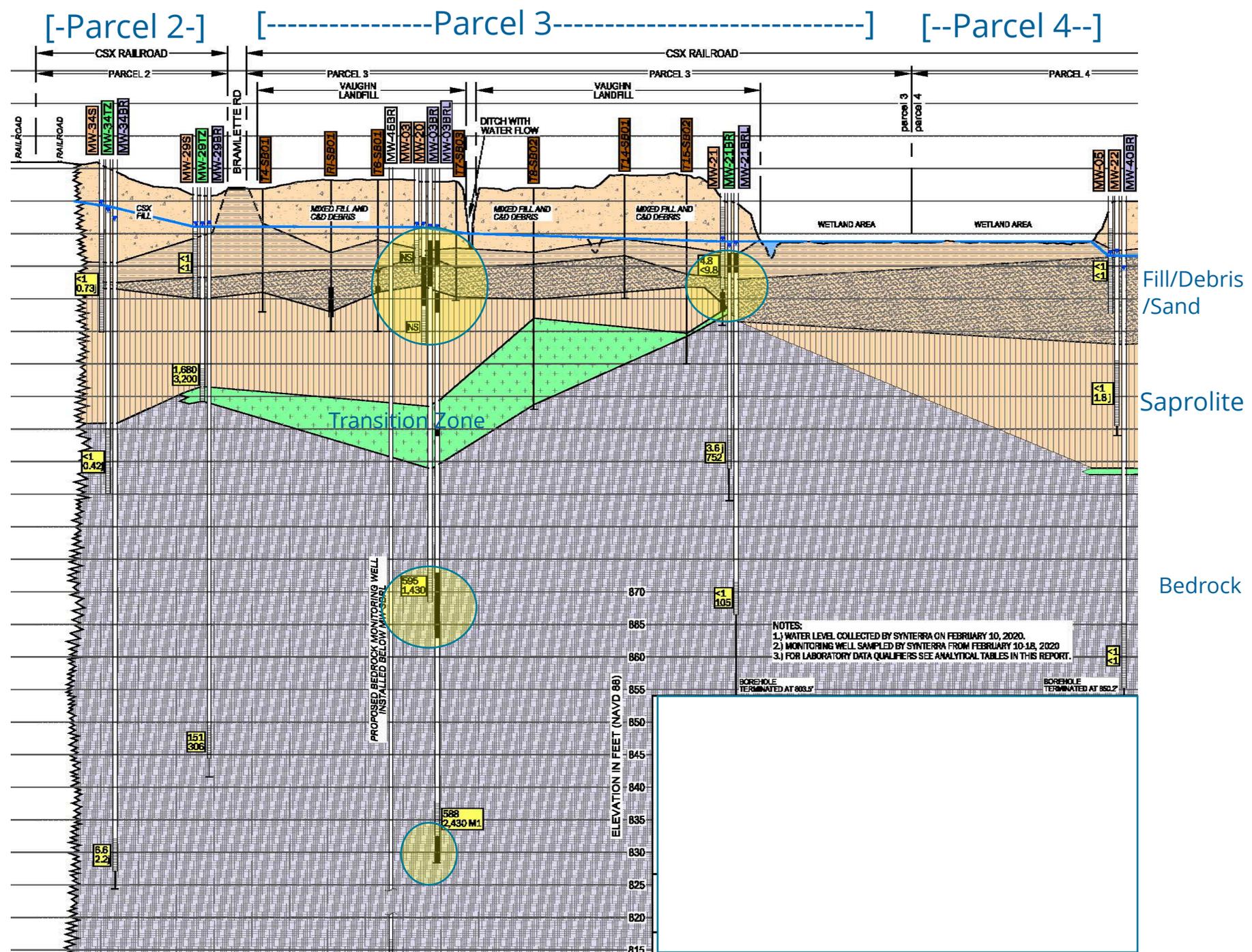
Tar-Like Material



# Cross-Section

Figure shows a cross-section from B to B' across Landfill Area

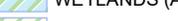
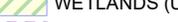
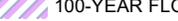
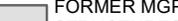
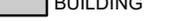
Coal Tar is identified by the black bars within the wells. The wells with observable coal tar are highlighted with the yellow circles.

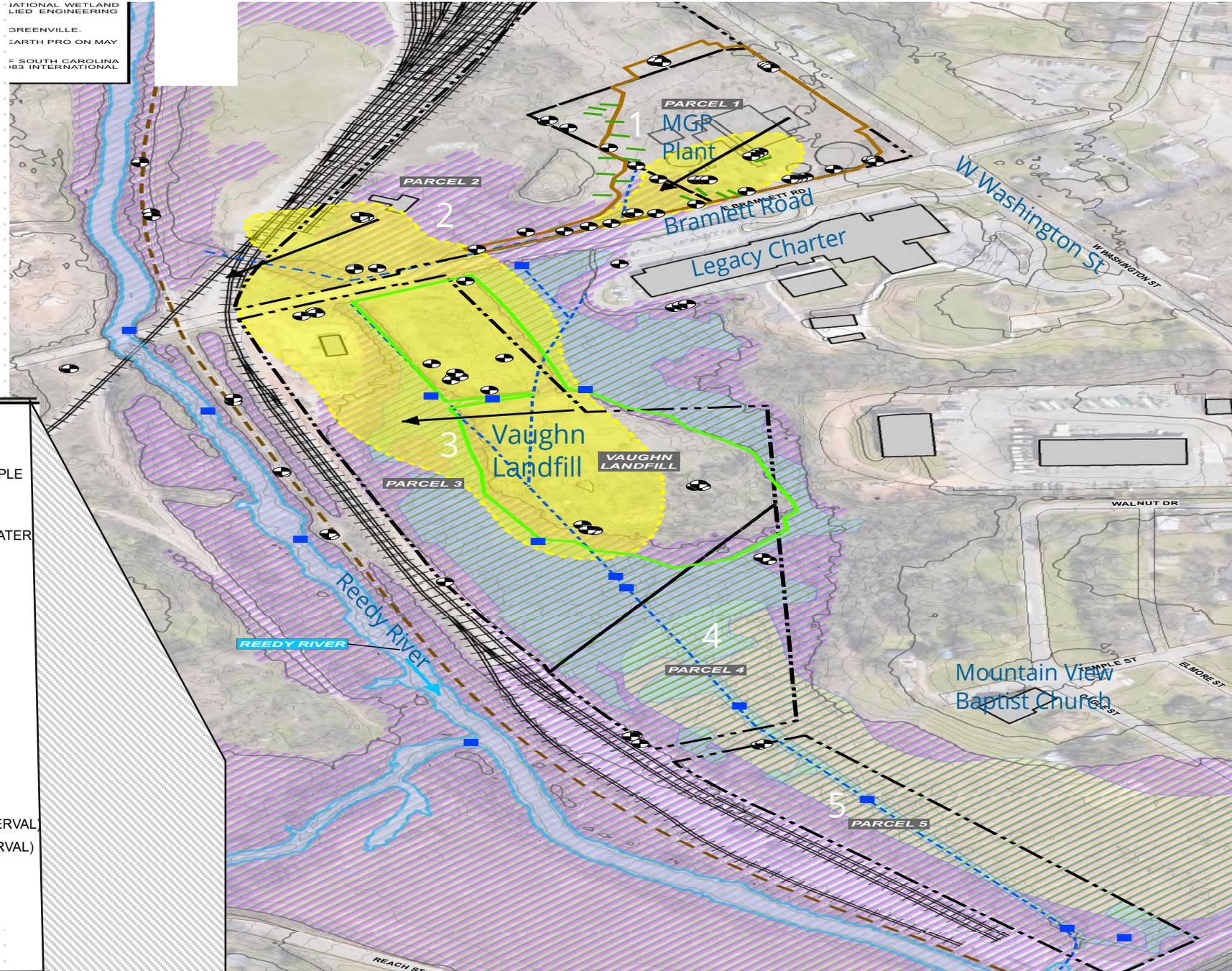


# Extent of Affected Groundwater

INTERNATIONAL WETLAND  
LIED ENGINEERING  
GREENVILLE,  
EARTH PRO ON MAY  
F SOUTH CAROLINA  
#83 INTERNATIONAL

**LEGEND**

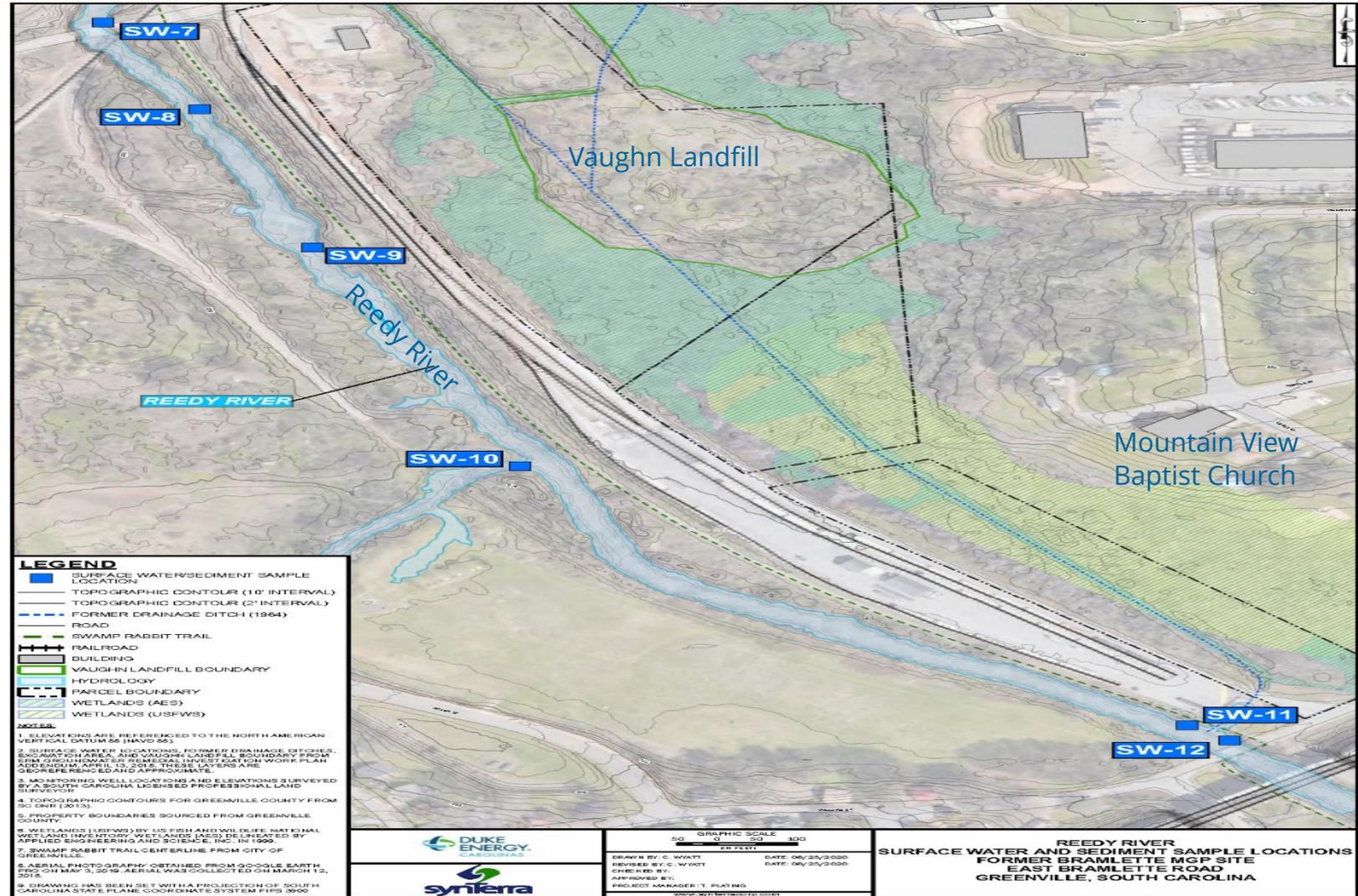
-  MONITORING WELL
-  SURFACE WATER/ SEDIMENT SAMPLE LOCATION
-  TEST PIT LINE
-  EXTENT OF AFFECTED GROUNDWATER
-  GROUNDWATER FLOW DIRECTION
-  VAUGHN LANDFILL BOUNDARY
-  EXCAVATED AREA (2001-2002)
-  FORMER DRAINAGE DITCH (1964)
-  HYDROLOGY
-  WETLANDS (AES)
-  WETLANDS (USFWS)
-  100-YEAR FLOODPLAIN
-  FORMER MGP OPERATIONAL STRUCTURES
-  BUILDING
-  PARCEL BOUNDARY
-  TOPOGRAPHIC CONTOUR (10' INTERVAL)
-  TOPOGRAPHIC CONTOUR (2' INTERVAL)
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-  ROAD
-  RAILROAD



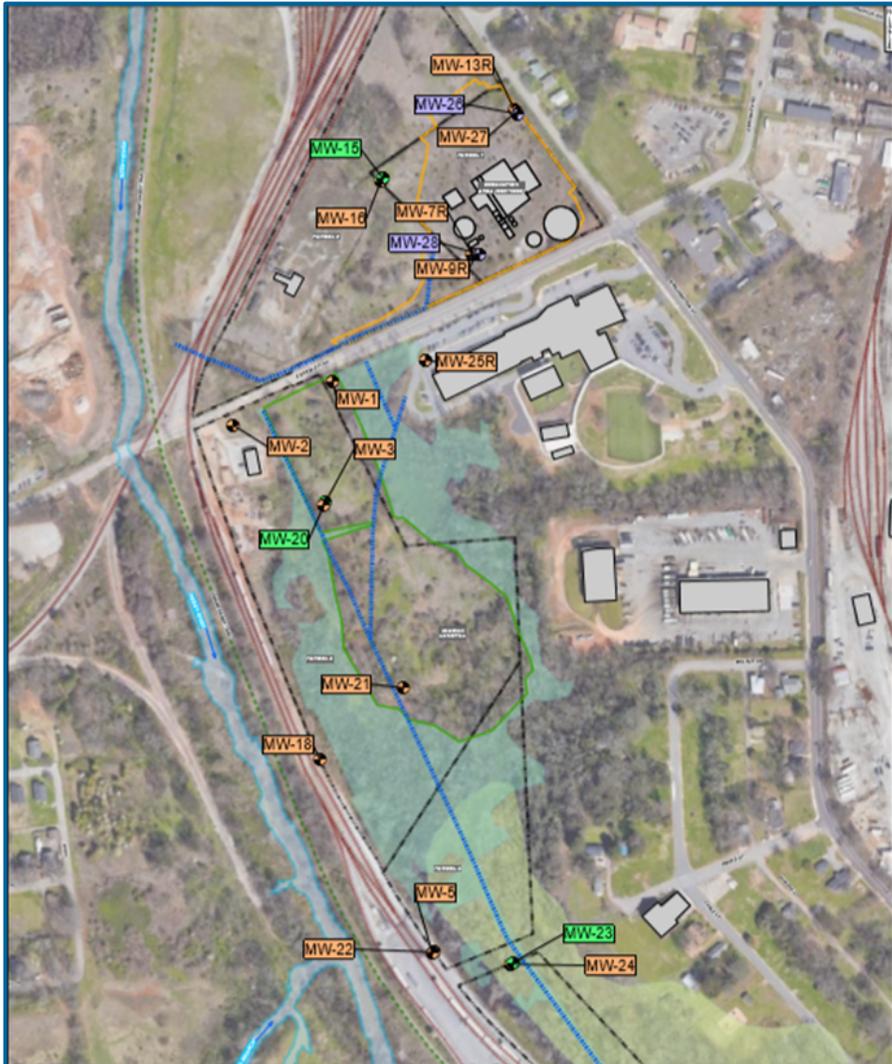
# Reedy River Assessment Work

## Key finding

- Reedy River surface water quality does not indicate impacts from MGP operations



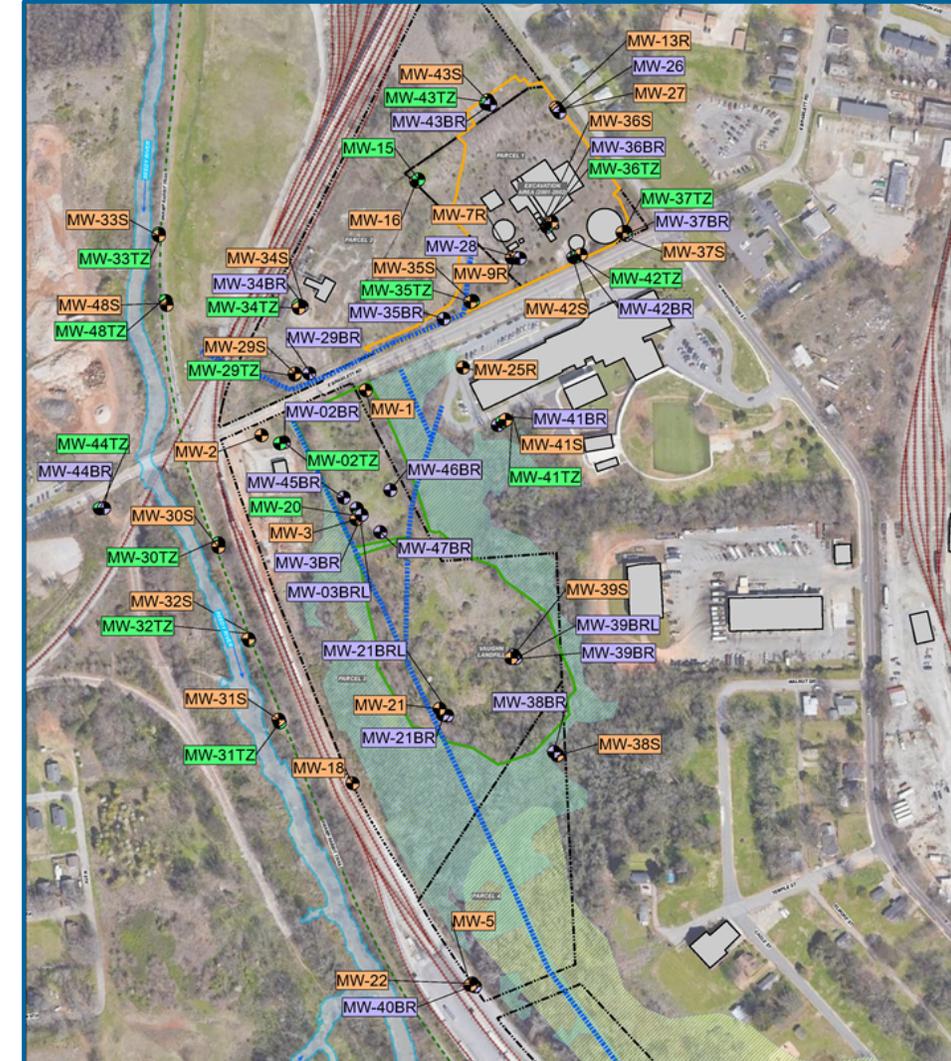
2017



## Work Completed as Part of the Voluntary Cleanup Contract

- 69 Monitoring Wells for Ongoing Groundwater Monitoring
- 62 Soil Borings Installed
- 16 Test Pits Excavated
- 94 Soil Samples Collected for Analytical Analysis
- 13 Surface Water Samples Collected
- 25 Sediment Samples Collected

2020



## Are there any Health Risks from the Coal Tar?

### No, and Here's Why...

- In Order to Have a Risk of Any Adverse Health Effects, You Must Have the Opportunity for an Exposure to a Hazard

Coal Tar has been  
Either Removed, is at  
Depth, or in Areas of  
Restricted Access

Drinking Water is from a Public  
Water Supply with Routine  
Testing and there are No  
Private Wells Nearby

Reedy River Surface Water  
has been Tested and No  
Impacts from MGP  
Operations have been  
found

## Legacy Charter Elementary School Assessment Work since the Remedial Investigation Report

### Soil Boring Findings

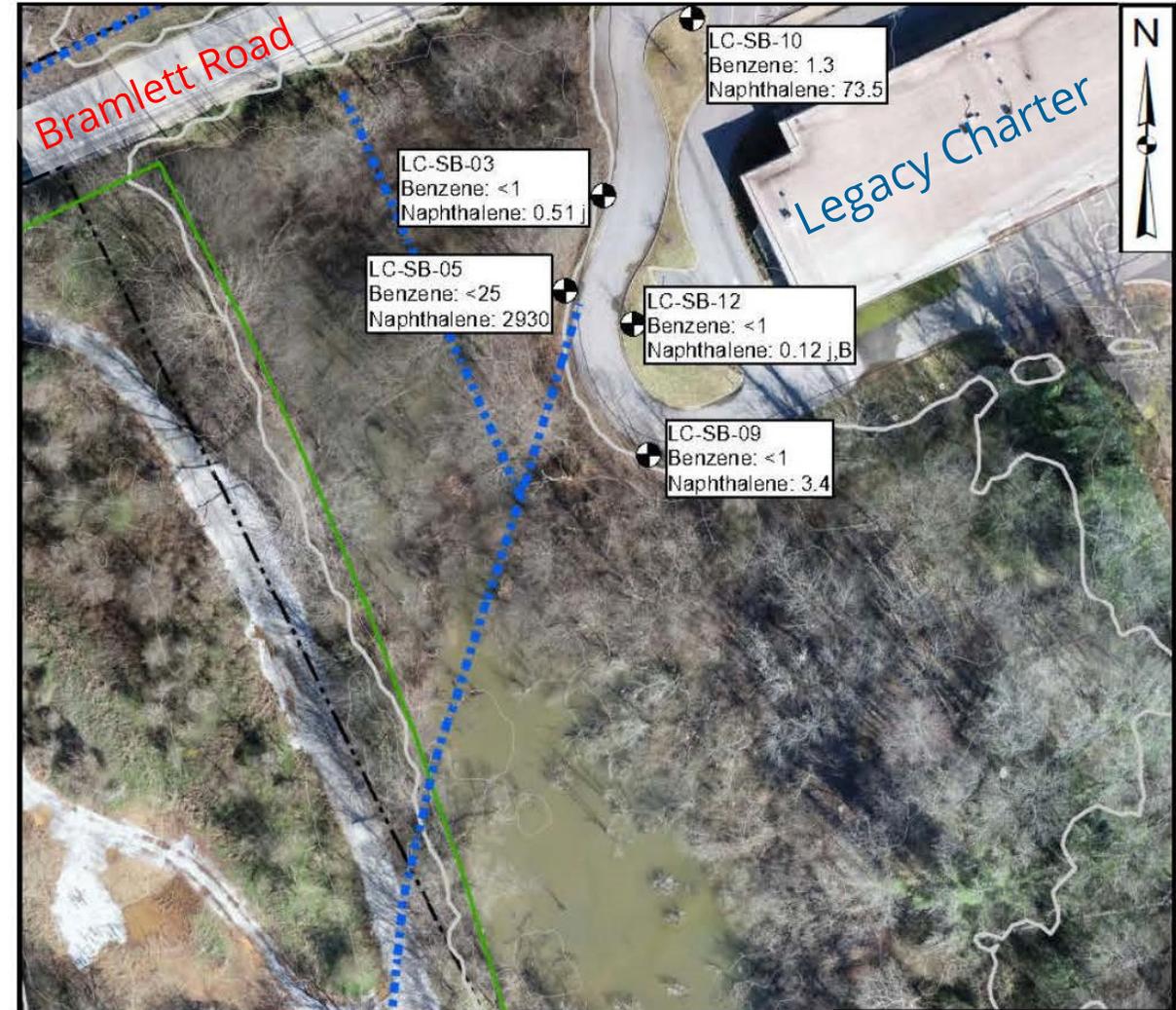
- Tar-like Material found beneath the school driveway at 14-19 feet bls limiting potential dermal contact
- Tar-like Material found 1 ft to 14 ft bls between Vaughn Landfill and the school driveway



## Legacy Charter Elementary School Assessment Work since the Remedial Investigation Report

### Groundwater Quality

- 5 Samples Collected from Shallow Temporary Monitoring Wells
- Naphthalene and Benzene detected above Maximum Contaminant Levels near the historical ditch



GROUNDWATER MONITORING WELL

# Legacy Charter Wetlands Barrier

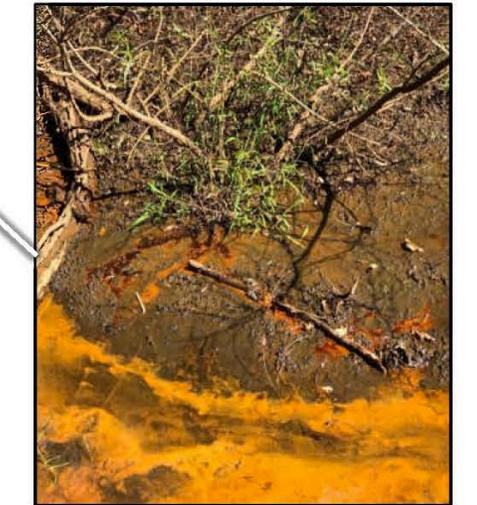
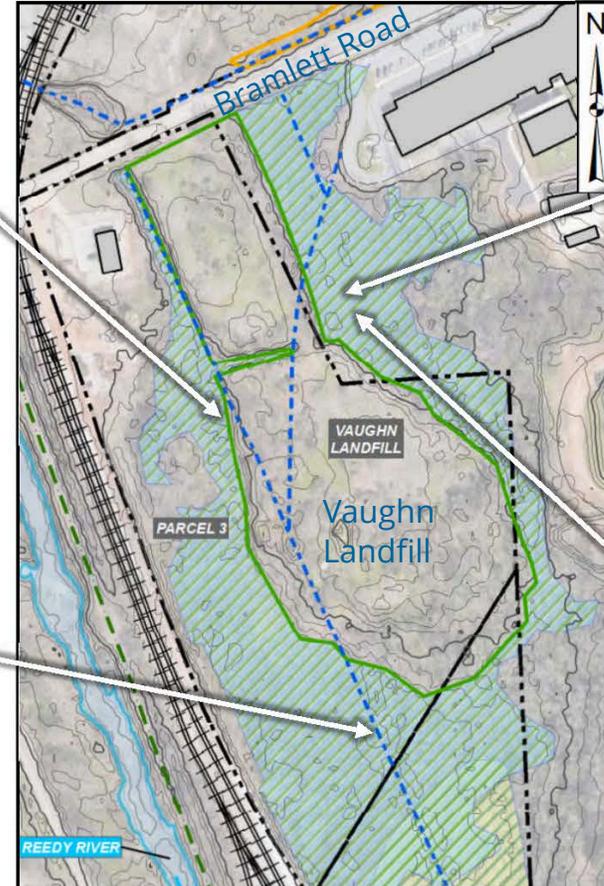
- Duke has added 720 linear feet of fencing to limit access to this area



## Remedial Investigation Work Plan Addendum – 4Q2020-Ongoing

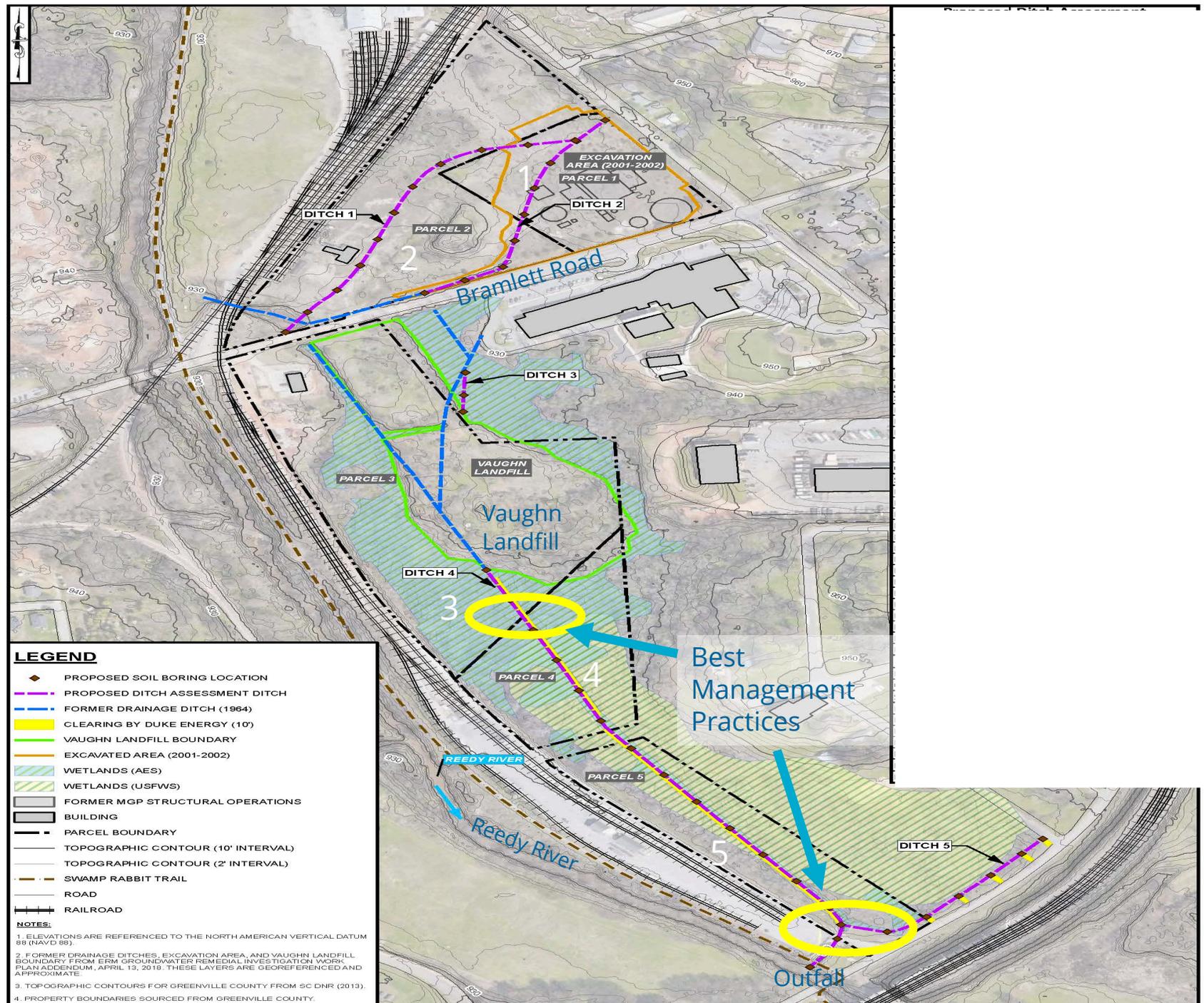
- Assess the Former Stormwater Conveyance Ditches
- Collect sediment and soil samples from at least 55 locations along the conveyance ditches
- Define the extent of coal tar in ditches
- Evaluate volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in ditches

### October 2020 Site Observations



# Remedial Investigation Work Plan Addendum – 4Q2020-Ongoing

- Preliminary Findings indicate that Sediment Samples have some Coal Tar At or Near the Surface in the Historical Drainage Ditches
- Duke Energy has Proposed to Utilize a couple of Best Management Practices to limit any movement of Sediment within the Historical Drainage Ditches
- Currently Evaluating the following Two Areas Circled in Yellow



## Proposed Best Management Practices



### Type 1 Turbidity Curtain

- Floating Barrier consisting of a plain solid skirt or skirt with a filter fabric
- Controls the downstream movement of entrained sediments
- Lacing grommets used to secure the ends of the barrier and ballast chains would be used to secure the bottom of the skirt
- Could be installed at the western end of the trench on Parcel 3



## Proposed Best Management Practices

### Permeable Rock Check Dams

- Constructed with well-graded stone or rip rap
- Combined with geosynthetic textiles to provide improved filtration and help prevent stones from becoming dislodged during high flow
- Could be installed near the outfall on Parcel 5



# What happens next?

- Historical Ditch Assessment to Delineate Extent of Volatile and Semi-Volatile Compounds associated with the MGP (Work being conducted in 4th Quarter 2020)
- Best Management Practices Design and Implementation (1st Quarter 2021)
- Report for Remedial Investigation Work Plan Addendum (2nd Quarter 2021)
- DHEC to determine if additional Assessment is needed (2nd Quarter 2021)
- Meet with Community Group to discuss other Sites in the area (2nd Quarter 2021)
- Evaluate Potential Removal Action within Historical Ditches and Permits Necessary to Conduct the Removal (2nd Quarter 2021)
- Evaluate Cleanup Alternatives



# Questions?

[www.scdhec.gov/bramlett](http://www.scdhec.gov/bramlett)



Lucas Berresford, Manager  
State Voluntary Cleanup Program

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