

## **Phase II Site Assessment Report**

**August 9, 2021**

**WBS Element: 44691.1.1**

**State Project: R-5759**

**Wilkes County**

**At**

**Parcel #002**

**Flynn Harrold Property**

**3048 Statesville Road, North Wilkesboro, NC 28659**

**PIN #: 3877-84-5252**

**Facility ID No.: N/A**

**Groundwater Incident No.: N/A**

**Prepared For:**

**Mr. Gordon Box**

**NCDOT, Geotechnical Engineering Unit**

**GeoEnvironmental Section**

**1589 Mail Service Center**

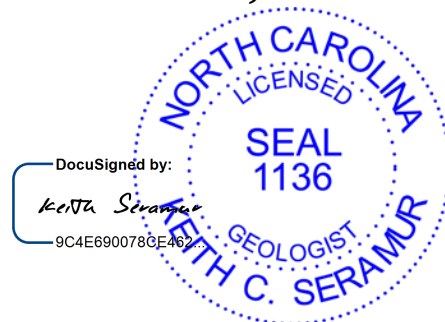
**Raleigh, NC 27699-1589**

**Prepared By:**

**Seramur & Associates, PC**

**165 Knoll Drive**

**Boone, NC 28607**



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Keith C. Seramur, P.G.

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## **1.0 Introduction**

### **1.1 General Site Background Information**

Seramur & Associates, PC was contracted to complete a Phase II Site Assessment (PSA) at:

Parcel #002  
Flynn Harrold Property  
PIN #: 3877-84-5252  
3048 Statesville Road, North Wilkesboro, NC 28659  
Facility ID No.: N/A

This parcel is located on the west side of Statesville Road approximately 300 feet south of the US 421 off-ramp (Figure 1). The property is located on an upland west of the Fishing Creek stream valley. Fishing Creek is approximately 450 feet east of Parcel #002. Bedrock at the property is mapped as gneiss, described as mainly monzonite, granodiorite with some quartz-diorite (Rankin, D.W., Espenshade, G.H., Shaw, K.W., and Neumann, R.B.. Geologic map of the west half of the Winston-Salem quadrangle, North Carolina-Virginia, U.S. Geologic Survey Misc. Inv. Series Map I-709-B, 1975).

A Notice to Proceed was obtained from NCDOT on June 25, 2021. This investigation covered areas within the proposed Permanent Utility Easement (PUE) and proposed and existing Right-of-Way (R/W) along the western side of Statesville Road (Figure 2). The Phase II Site Assessment scope of work included completing a geophysical survey at the property to investigate the potential for unknown underground storage tanks and remnant infrastructure. Background research for this project included reviewing historic aerial photographs and NCDEQ databases.

## **2.0 Scope of Work**

### **2.1 Background Research**

According to Wilkes County Tax Administration records, the parcel is owned by Flynn Harrold. Available historic aerial photographs from the USGS EarthExplorer website and Google Earth Pro were reviewed.

The following NCDEQ databases were queried for incidents at Parcel #002:

- Active USTs
- UST Incident Map
- UST Database
- Hazardous Waste Sites

### **2.2 Geophysical Surveys**

Seramur & Associates used the Pythagorean Theorem to establish one rectangular grid across the proposed easement for a geophysical survey at Parcel #002 (Figure 3). Grid 1 extends along the east edge of the property, bordering Statesville Road. Geophysical grid data was collected along transects at a two-foot spacing.

The magnetometer data was collected with a GEM Systems GSM-19W Walking Overhauser Gradiometer. This data was compiled in an Excel spreadsheet and a contour map of the magnetometer data was drafted using Golden Software's Surfer® modeling program (Figure 4). The lighter shades are lower magnetic readings and the darker shades are higher magnetic readings (Figure 4). Ferrous objects in the subsurface are more magnetic than the surrounding soil and can produce positive and negative magnetic anomalies on the contour maps.

A Ground Penetrating Radar (GPR) survey was completed across the grid using Geophysical Survey Systems, Inc. UtilityScan GPR System with a 350 MHz hyperstacking antenna. This GPR system is equipped with a calibrated survey wheel. The GPR data was downloaded and saved onto a computer. The GPR grid data has been processed and modeled using GPR Slice® software. The GPR data processing included adjusting time zero, completing a background removal and adjusting the time variable gain to enhance deep reflections. Three-dimensional models of the GPR grid data were produced with GPR Slice® software. Three time slices (or depth slices) were imaged in each grid at depths of 0.3 to 0.6 feet, 1.6 to 1.9 feet and 2.7 to 3.0 feet (Figures 5 through 7). Each depth slice is a horizontal slice or plan view of the reflections across a 0.3-foot thickness of the subsurface. For example, the deep GPR depth slices for the grid shows reflections in the radar data between depths of 2.7 and 3.0 feet.

### 2.3 Plate 1 – Photographs of Parcel #002



### 3.0 Results of Investigation

Parcel #002 does not appear to be an active business. Historic photographs did not show evidence of past use of the property that could indicate a potential environmental condition. The NCDEQ databases do not indicate that this property has operated as a gas station in the past or that there have been any reported spills or leaks that have affected Parcel #002.

SAPC personnel made a pedestrian reconnaissance of the property during the initial site visit on June 29, 2021. No evidence of a UST system or typical gas station infrastructure was observed within the R/W or PUE. One heating oil UST was observed on the west side of the building out of the R/W and PUE. It is not known if this tank is still in use. Should a release have occurred from this UST, it would have migrated downgradient to the west and would not affect soil quality in the R/W and/or PUE.

### **3.1 Geophysical Surveys**

A grid of magnetometer data was collected parallel to Statesville Road (Figure 5). One localized negative magnetic anomaly was detected near the eastern edge of the grid (Figure 5). This anomaly turned out to be a piece of scrap metal. Magnetic anomalies characteristic of a UST were not detected at Parcel #002.

The shallow GPR depth slice (0.3-0.6 feet) for Grid 1 shows one linear set of high amplitude reflections extending east to west across the grid and another along the eastern edge of the grid (Figure 5). These reflections show the change from lawn to the paved parking lot. A faint linear set of reflections extending from the northwest side of the grid towards the southeast were produced by a speed bump on the pavement. There are a few other areas where medium amplitude reflections (green) appear, but they are not consistent with any type of buried infrastructure.

There are two linear higher amplitude sets of reflections on the 1.6-1.9 feet intermediate depth slice (Figure 6). The set of reflections in the northwest corner of the grid is related to a drain pipe (storm drain?) observed near the northeast corner of the grid. The other linear set of reflections follows a meandering path and is likely some type of utility line.

The deep GPR depth slice (2.7 to 3.0 feet) shows a linear set of high amplitude reflections extending across the grid from east to west (Figure 7). This anomaly is related to the ditch for an electric line as a line of red paint was observed on the pavement at this location. The eastern end of the drain pipe is also observed along the northern edge of the grid.

The magnetometer and GPR surveys did not detect anomalies indicative of buried USTs or infrastructure related to a UST system.

### **3.2 Conclusions**

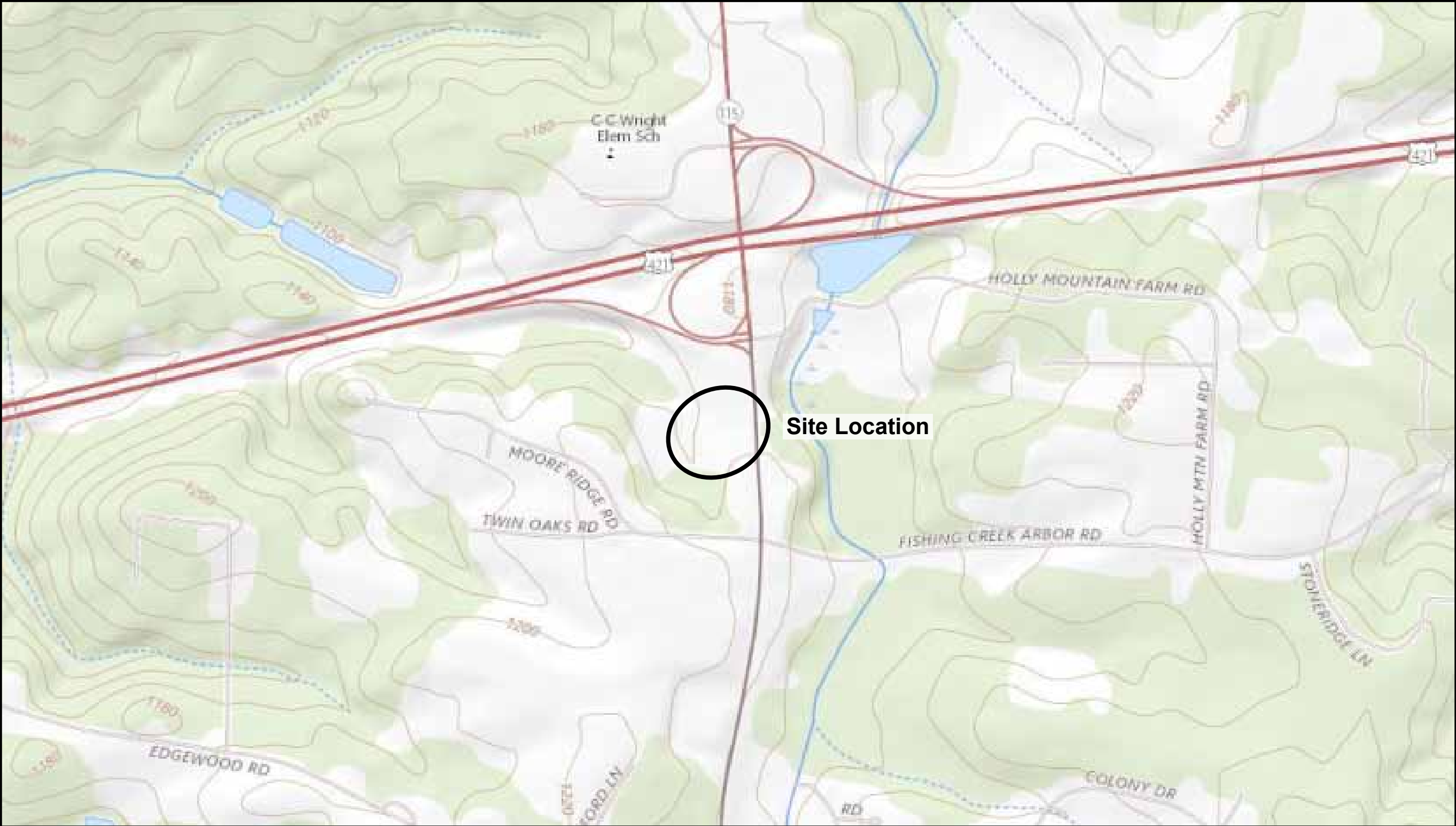
Parcel #002 has a commercial building but does not appear to be an active business currently. Evidence of a UST system was not identified within the Right-of-Way or easements of Parcel #002 during our geophysical investigation.

## **4.0 Recommendations**

Seramur & Associates does not recommend any further assessment work for Parcel #002.

## **Appendix A**

### **Figures**



|                                                                              |                                         |                                                                         |                                            |                                       |                        |
|------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------|--------------------------------------------|---------------------------------------|------------------------|
| <b>Figure 1</b><br>Site Location Map<br>Source: U.S.G.S.<br>The National Map | TIP Number: R-5759<br>Wilkes County, NC | Flynn Harrold Property<br>3048 Statesville Road<br>North Wilkesboro, NC | Parcel I.D. #: 002<br>Facility I.D. #: N/A | Seramur & Associates, PC<br>Boone, NC | 0 400 800<br>Feet<br>N |
|------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------|--------------------------------------------|---------------------------------------|------------------------|

