



THE SCIENCE OF READYSM

ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)

BELLA VISTA TRAFALGAR ROAD FIRE – PHASE I REMEDIAL ACTION

Daily Summary
Bella Vista, Arkansas
May 22, 2019
Project #111327

1.0 Introduction

Environmental Resources Management (ERM) requested that CTEH conduct air monitoring in the community surrounding the Trafalgar Road Fire located in Bella Vista, Arkansas during the Phase I Remedial Action. CTEH arrived on-site on May 15, 2019 and began air monitoring operations. Activities were comprised of real-time air monitoring.

This report summarizes air monitoring data collected from May 22, 2019 07:00 CDT to May 23, 2019 07:00 CDT.

2.0 Air Monitoring and Sampling Methods

CTEH developed and implemented an Air Monitoring and Sampling, Noise Monitoring, and Hazard Communication Plan (SAP) to document and quantify the release of fugitive emissions (if any) produced by the fire. All instrumentation was calibrated at least once per day or per manufacturer's recommendations. Target analytes were measured as carbon monoxide (CO), nitrogen dioxide (NO₂), 2.5-micron particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and volatile organic compounds (VOCs) using handheld instruments such as RAE Systems MultiRAEs and TSI SidePak™ AM520 Aerosol Monitors.

Hand-held air monitoring consisted of roaming air monitoring in the surrounding community. Additionally, fixed monitoring locations were established for periodic visitation by field personnel to track trends in air quality (if any). All hand-held air monitoring was conducted in the breathing zone.

3.0 Air Monitoring Results

Figures 1 – 6 in **Attachment A** depicts the site location and hand-held monitoring locations for this reporting period.

Table 1 summarizes the results for hand-held air monitoring readings and **Table 2** summarizes hand-held air monitoring results by their respecting fixed real-time location (FRT).

Table 1: Community Monitoring Hand-Held Real-Time Air Monitoring Results

Location	Analyte	Instrument	# of Readings	# of Detections	Detection Range
Community Monitoring	CO	MultiRAE	229	0	< 1 ppm
	PM _{2.5}	AM520	216	216	0.003 – 0.118 mg/m ³
	PM _{2.5}	DustTrak	13	13	0.036 – 0.121 mg/m ³
	Sound Level	SLM	4	4	67.8 – 69.9 db(A)
	VOCs	MultiRAE	230	0	< 0.1 ppm

¹Maximum detections preceded by the "<" symbol are considered non-detections below the limit of detection (LoD) value to the right.

Table 2: Fixed Monitoring Location Air Monitoring Results

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
AS-005	CO	MultiRAE	1	0	-	< 1 ppm
	PM _{2.5}	AM520	2	2	0.07 mg/m ³	0.056 - 0.083 mg/m ³
	VOCs	MultiRAE	1	0	-	< 0.1 ppm
FRT-001	CO	MultiRAE	9	0	-	< 1 ppm
	PM _{2.5}	AM520	8	8	0.038 mg/m ³	0.005 - 0.099 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-002	CO	MultiRAE	9	0	-	< 1 ppm
	PM _{2.5}	AM520	9	9	0.046 mg/m ³	0.006 - 0.098 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-003	CO	MultiRAE	13	0	-	< 1 ppm
	PM _{2.5}	AM520	13	13	0.048 mg/m ³	0.008 - 0.105 mg/m ³
	VOCs	MultiRAE	13	0	-	< 0.1 ppm
FRT-004	CO	MultiRAE	12	0	-	< 1 ppm
	PM _{2.5}	AM520	13	13	0.067 mg/m ³	0.008 - 0.115 mg/m ³
	VOCs	MultiRAE	14	0	-	< 0.1 ppm
FRT-005	CO	MultiRAE	11	0	-	< 1 ppm
	PM _{2.5}	AM520	10	10	0.067 mg/m ³	0.009 - 0.104 mg/m ³
	VOCs	MultiRAE	11	0	-	< 0.1 ppm
FRT-006	CO	MultiRAE	11	0	-	< 1 ppm
	PM _{2.5}	AM520	11	11	0.056 mg/m ³	0.012 - 0.097 mg/m ³
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-007	CO	MultiRAE	9	0	-	< 1 ppm
	PM _{2.5}	AM520	9	9	0.046 mg/m ³	0.004 - 0.11 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-008	CO	MultiRAE	8	0	-	< 1 ppm
	PM2.5	AM520	7	7	0.044 mg/m ³	0.016 - 0.093 mg/m ³
	VOCs	MultiRAE	7	0	-	< 0.1 ppm
FRT-009	CO	MultiRAE	12	0	-	< 1 ppm
	PM2.5	AM520	12	12	0.062 mg/m ³	0.006 - 0.118 mg/m ³
	VOCs	MultiRAE	12	0	-	< 0.1 ppm
FRT-010	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.04 mg/m ³	0.006 – 0.108 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-011	CO	MultiRAE	8	0	-	< 1 ppm
	PM2.5	AM520	8	8	0.048 mg/m ³	0.019 - 0.113 mg/m ³
	VOCs	MultiRAE	8	0	-	< 0.1 ppm
FRT-012	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.044 mg/m ³	0.009 - 0.101 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-013	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.041 mg/m ³	0.003 - 0.102 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-014	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.043 mg/m ³	0.007 - 0.104 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-015	CO	MultiRAE	9	0	-	< 1 ppm
	PM2.5	AM520	9	9	0.049 mg/m ³	0.007 - 0.101 mg/m ³
	VOCs	MultiRAE	9	0	-	< 0.1 ppm

¹Maximum detections preceded by the "<" symbol are considered non-detections below the limit of detection (LoD) value to the right.

² Particulate matter averages are provided for additional context. Due to the uneven temporal distribution of particulate matter monitoring data at these locations, averages may be biased and are not directly comparable to National Ambient Air Quality Standards (NAAQS).

4.0 Weather Conditions

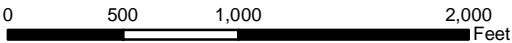
Attachment B contains a wind rose depicting wind speed and direction for this reporting period.

Attachment A

CTEH Air Sampling and Monitoring Locations



Figure 1: Incident Location
Bella Vista Refuse Fire



Project: 111327
Client: ERM
City: Bella Vista, AR
County: Benton

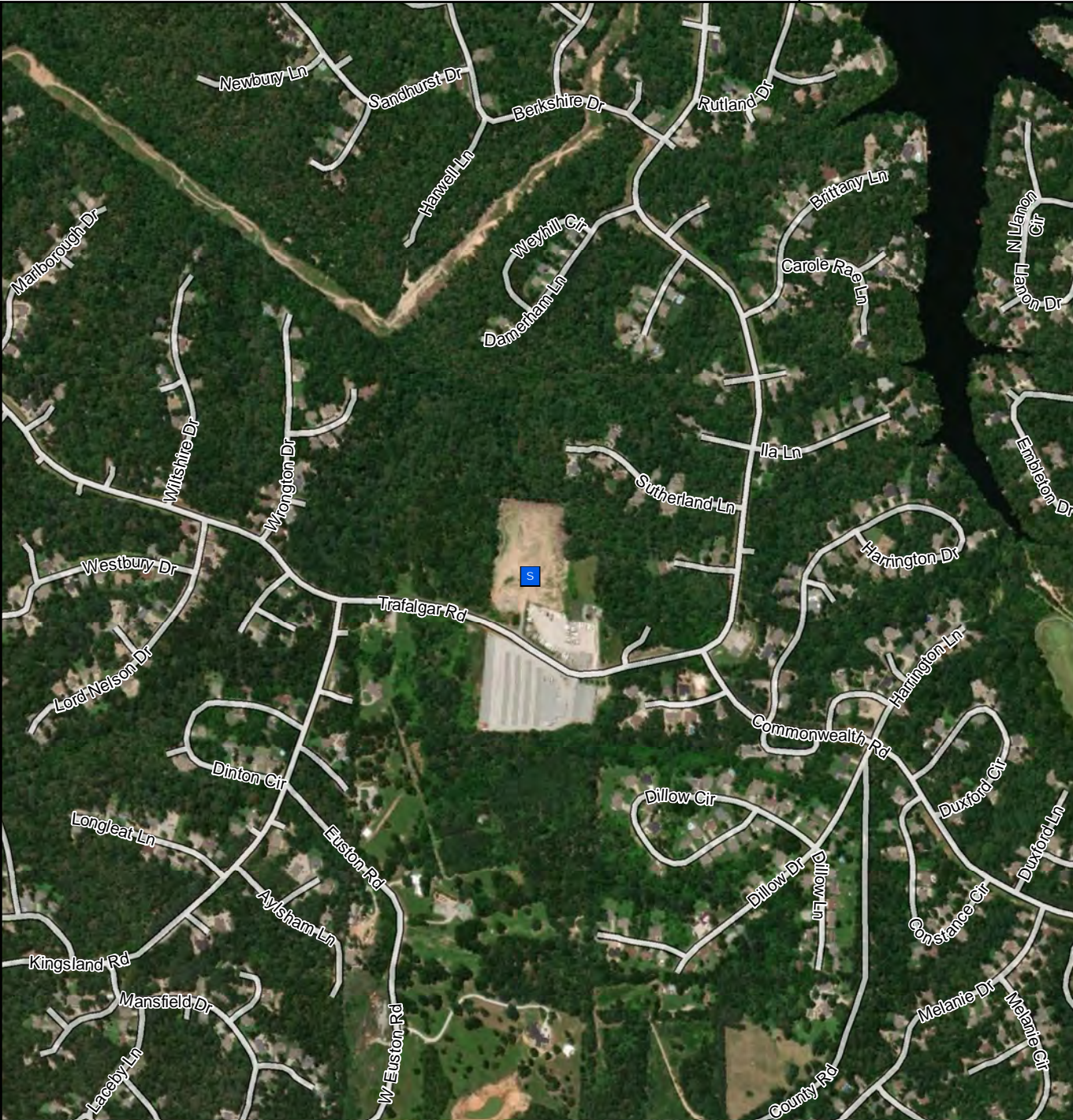
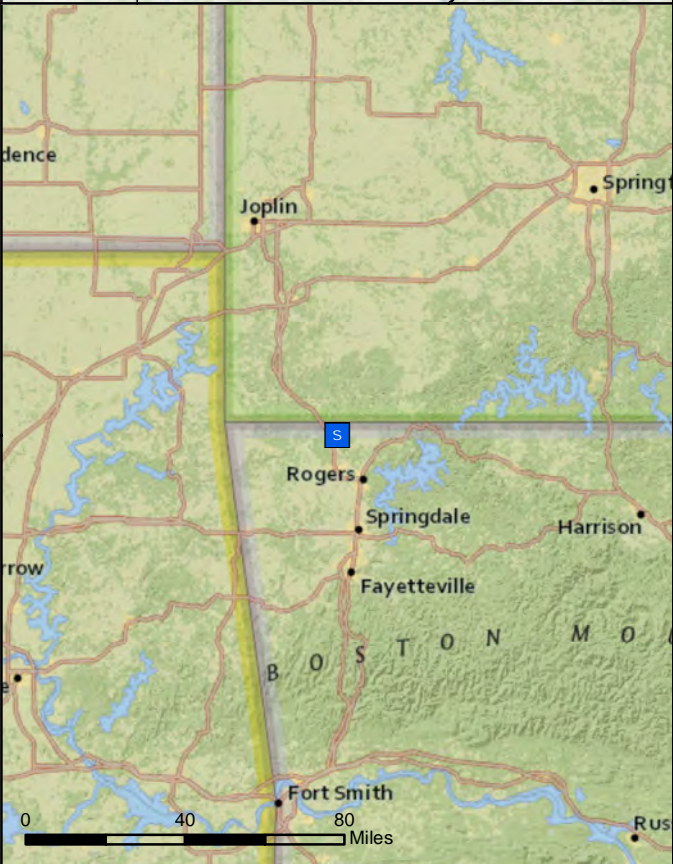
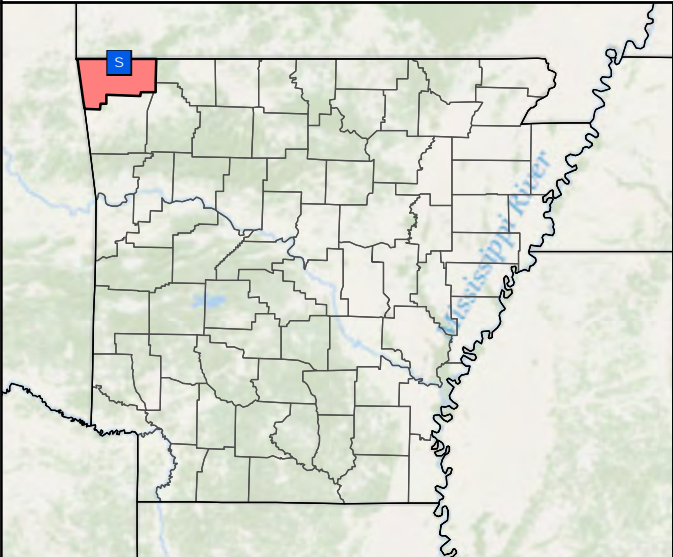




Figure 2: Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327
Client: ERM
City: Bella Vista, AR
County: Benton

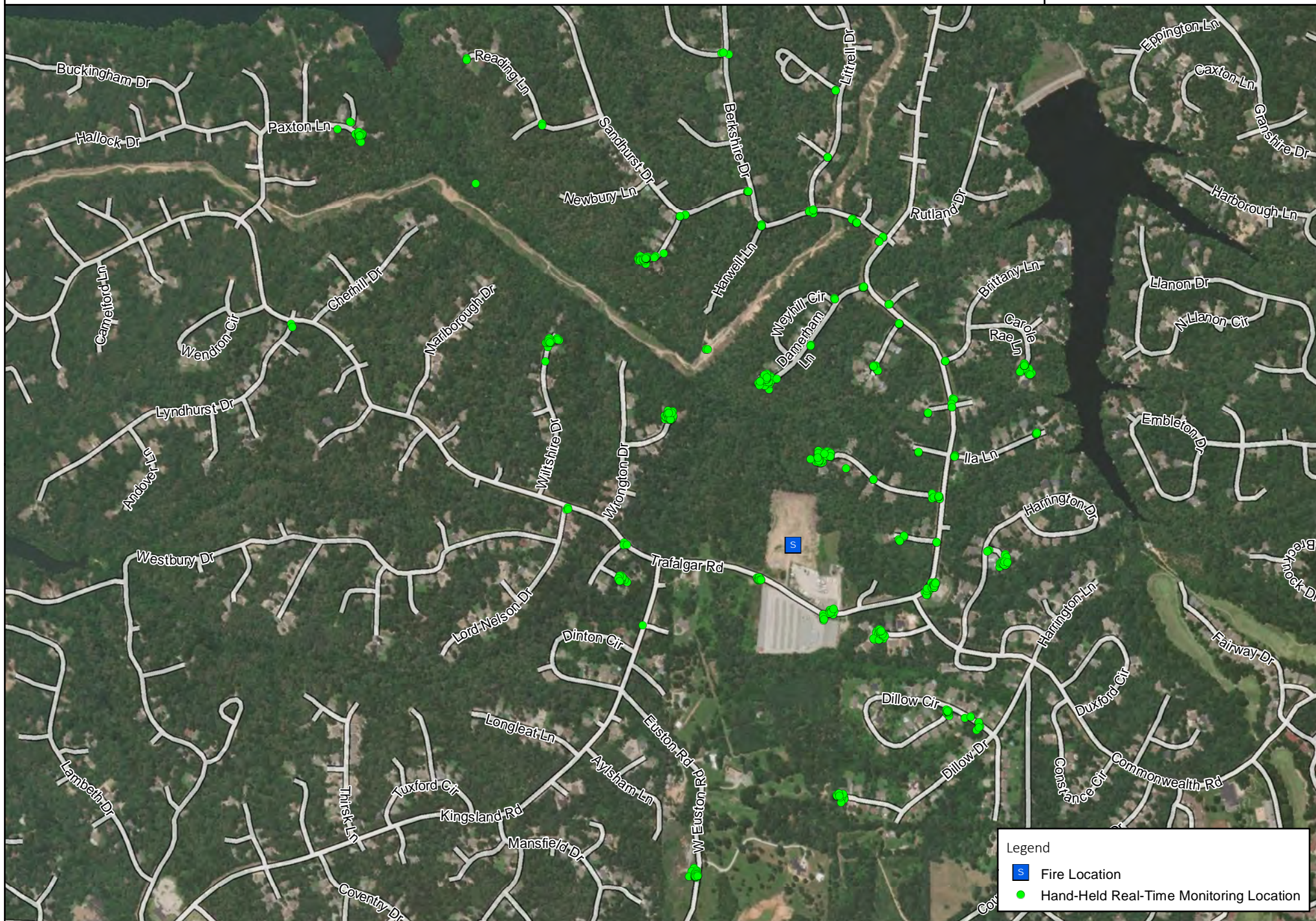




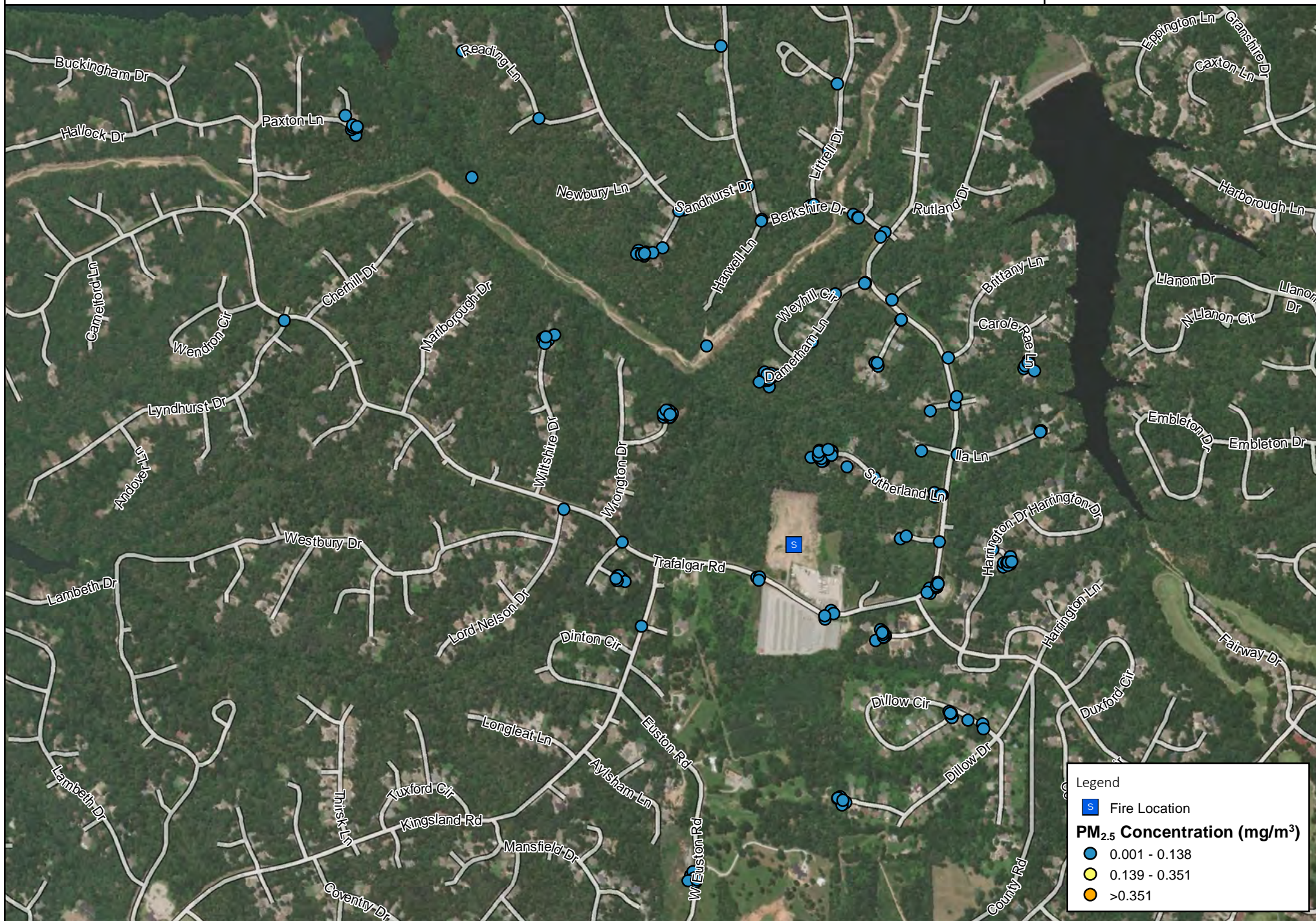
Figure 3: Real-Time Air Monitoring Locations (PM_{2.5})

Bella Vista Trafalgar Road Fire

0 500 1,000
Feet



Project: 111327
Client: ERM
City: Bella Vista, AR
County: Benton

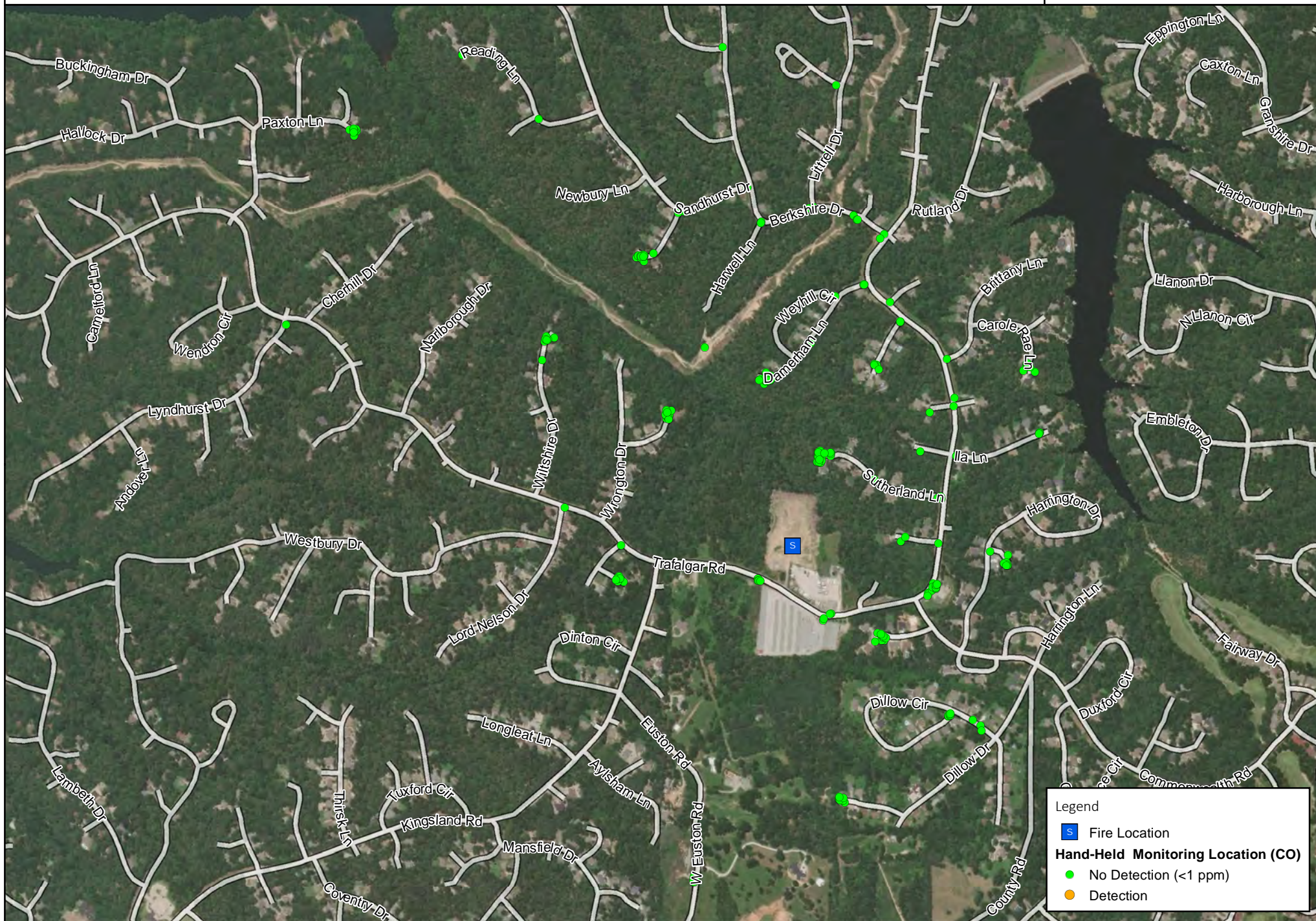


Legend

Fire Location

PM_{2.5} Concentration (mg/m³)

- 0.001 - 0.138
- 0.139 - 0.351
- >0.351



Legend

S Fire Location

Hand-Held Monitoring Location (CO)

● No Detection (<1 ppm)

● Detection



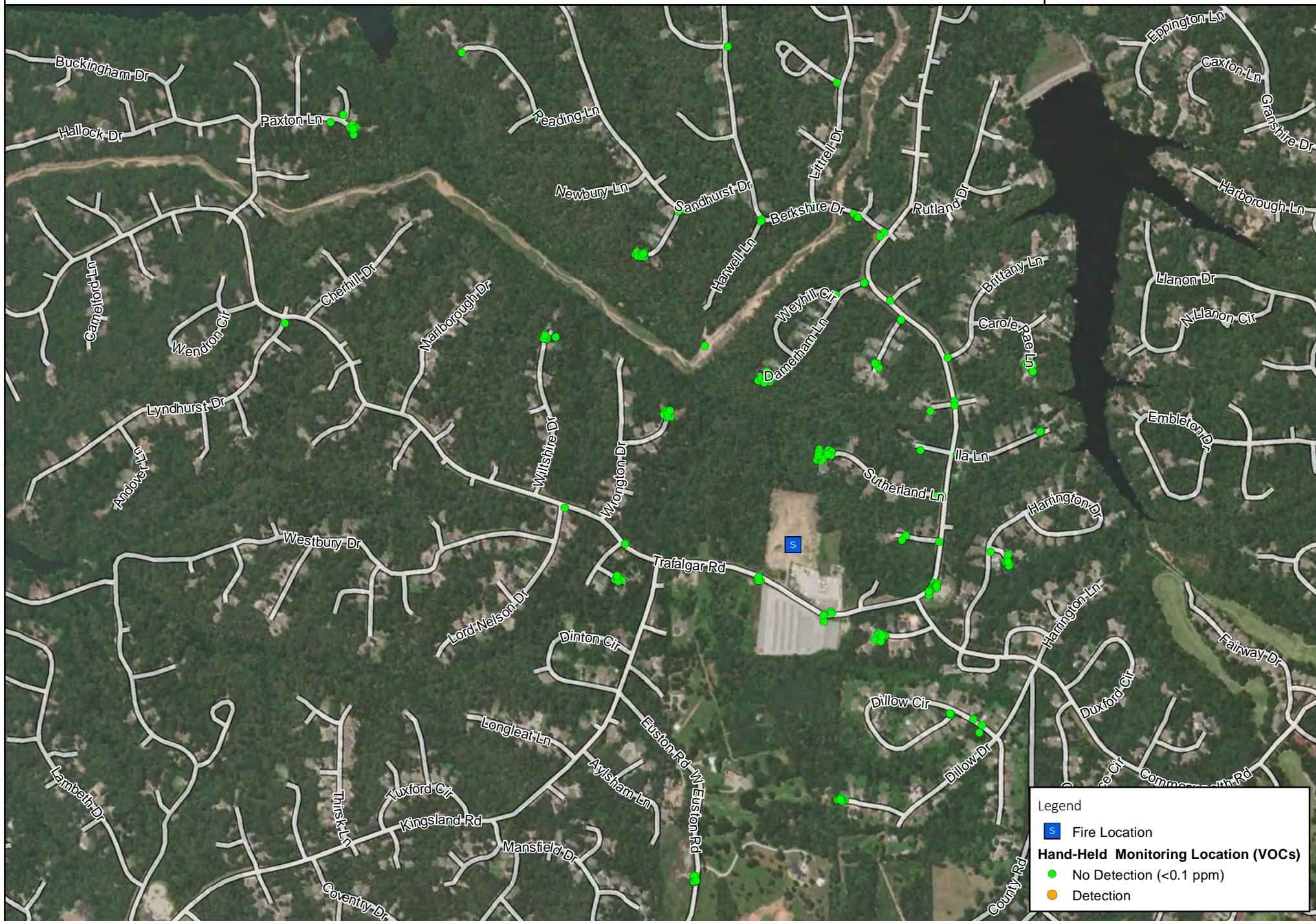
Figure 5: Real-Time Air Monitoring Locations (VOCs)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327
Client: ERM
City: Bella Vista, AR
County: Benton



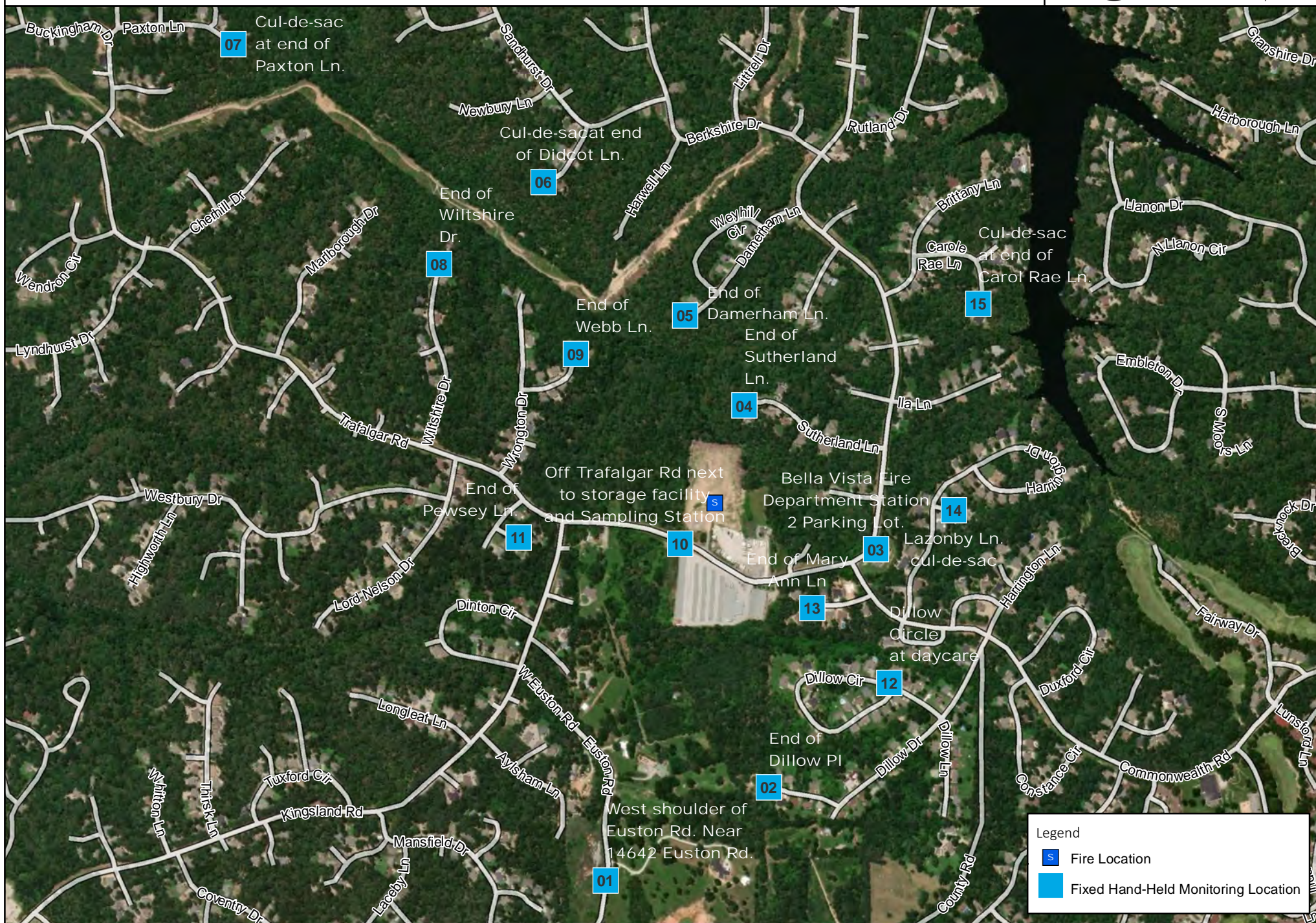
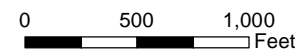
COORDINATE SYSTEM: NAD 1983 UTM Zone 15N

DATUM: North American 1983

LAST UPDATED: 5/23/2019 11:46:38 AM

Figure 6: Fixed Hand-Held Real-Time Air Monitoring Locations

Bella Vista Trafalgar Road Fire



Attachment B

Meteorological Conditions

Project #111327
May 22, 2019 07:00 to May 23, 2019 07:00
N

- 5.6 - 7.9 mph
- 7.9 - 10.2 mph
- 10.2 - 12.5 mph
- 12.5 - 14.8 mph
- 14.8 - 17.1 mph

