



THE SCIENCE OF READY<sup>SM</sup>

# ENVIRONMENTAL RESOURCES MANAGEMENT (ERM)

## BELLA VISTA TRAFALGAR ROAD FIRE – PHASE I REMEDIAL ACTION

---

Daily Summary

Bella Vista, Arkansas

May 27, 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 27, 2019 07:00 CDT to May 28, 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 (NO<sub>2</sub>), 2.5-micron particulate matter (PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), 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.

Analytical air samples were deployed in the breathing zone at three locations through the community. Each station consisted of an SKC active sampling pump equipped with sorbent media suitable for collection of polycyclic aromatic hydrocarbons (PAHs).

All samples will be sent to American Industrial Hygiene Association (AIHA) accredited Galson Laboratories for analysis in accordance with NIOSH Method 5506. **Figure 7 in Attachment A** depicts these analytical air sampling locations.

## 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	243	1	4 ppm
	NO <sub>2</sub>	MultiRAE	68	0	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	237	237	0.023 – 0.34 mg/m <sup>3</sup>
	PM <sub>2.5</sub>	DustTrak	8	8	0.022 – 0.125 mg/m <sup>3</sup>
	SO <sub>2</sub>	Gastec #5Lb	9	0	< 0.05 ppm
	SO <sub>2</sub>	MultiRAE	22	0	< 0.1 ppm
	Sound Level	SLM	10	10	66.2 – 76.4 db(A)
	VOCs	MultiRAE	243	4	0.1 – 0.1 ppm

<sup>1</sup>Maximum 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
FRT-001	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	10	10	0.049 mg/m <sup>3</sup>	0.029 - 0.063 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-002	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	10	10	0.047 mg/m <sup>3</sup>	0.026 - 0.058 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-003	CO	MultiRAE	14	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	2	0	-	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	15	15	0.05 mg/m <sup>3</sup>	0.031 - 0.067 mg/m <sup>3</sup>
	VOCs	MultiRAE	14	0	-	< 0.1 ppm
FRT-004	CO	MultiRAE	17	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	6	0	-	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	16	16	0.121 mg/m <sup>3</sup>	0.042 - 0.34 mg/m <sup>3</sup>
	SO <sub>2</sub>	Gastec #5Lb	3	0	-	< 0.05 ppm
	VOCs	MultiRAE	17	0	-	< 0.1 ppm
FRT-005	CO	MultiRAE	14	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	5	0	-	< 0.1 ppm
	PM <sub>2.5</sub>	AM520	14	14	0.064 mg/m <sup>3</sup>	0.03 - 0.089 mg/m <sup>3</sup>
	SO <sub>2</sub>	Gastec #5Lb	1	0	-	< 0.05 ppm
	SO <sub>2</sub>	MultiRAE	1	0	-	< 0.1 ppm
	VOCs	MultiRAE	14	0	-	< 0.1 ppm

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
FRT-006	CO	MultiRAE	12	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	4	0	-	< 0.1 ppm
	PM2.5	AM520	12	12	0.045 mg/m <sup>3</sup>	0.03 - 0.072 mg/m <sup>3</sup>
	SO <sub>2</sub>	Gastec #5Lb	2	0	-	< 0.05 ppm
	VOCs	MultiRAE	12	0	-	< 0.1 ppm
FRT-007	CO	MultiRAE	8	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	1	0	-	< 0.1 ppm
	PM2.5	AM520	8	8	0.055 mg/m <sup>3</sup>	0.045 - 0.062 mg/m <sup>3</sup>
	VOCs	MultiRAE	8	0	-	< 0.1 ppm
FRT-008	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	10	10	0.05 mg/m <sup>3</sup>	0.033 - 0.06 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-009	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.053 mg/m <sup>3</sup>	0.033 - 0.066 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-010	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	10	10	0.05 mg/m <sup>3</sup>	0.029 - 0.063 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-011	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.049 mg/m <sup>3</sup>	0.026 - 0.066 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-012	CO	MultiRAE	9	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.049 mg/m <sup>3</sup>	0.023 - 0.064 mg/m <sup>3</sup>
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-013	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	3	0	-	< 0.1 ppm
	PM2.5	AM520	11	11	0.048 mg/m <sup>3</sup>	0.029 - 0.064 mg/m <sup>3</sup>
	VOCs	MultiRAE	10	0	-	< 0.1 ppm
FRT-014	CO	MultiRAE	9	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	2	0	-	< 0.1 ppm
	PM2.5	AM520	9	9	0.046 mg/m <sup>3</sup>	0.025 - 0.069 mg/m <sup>3</sup>
	VOCs	MultiRAE	9	0	-	< 0.1 ppm
FRT-015	CO	MultiRAE	10	0	-	< 1 ppm
	NO <sub>2</sub>	MultiRAE	2	0	-	< 0.1 ppm

Location Code	Analyte	Instrument	# of Readings	# of Detections	Average of Detections	Detection Range
	PM2.5	AM520	10	10	0.046 mg/m <sup>3</sup>	0.024 - 0.065 mg/m <sup>3</sup>
	VOCS	MultiRAE	10	0	-	< 0.1 ppm

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

<sup>2</sup> 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).

The data collected during this reporting period suggest that under certain conditions, smoke constituents may exceed levels such as those described in the SAP, and thus, actions may be required when these events are sustained.

## 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

0 500 1,000 2,000 Feet

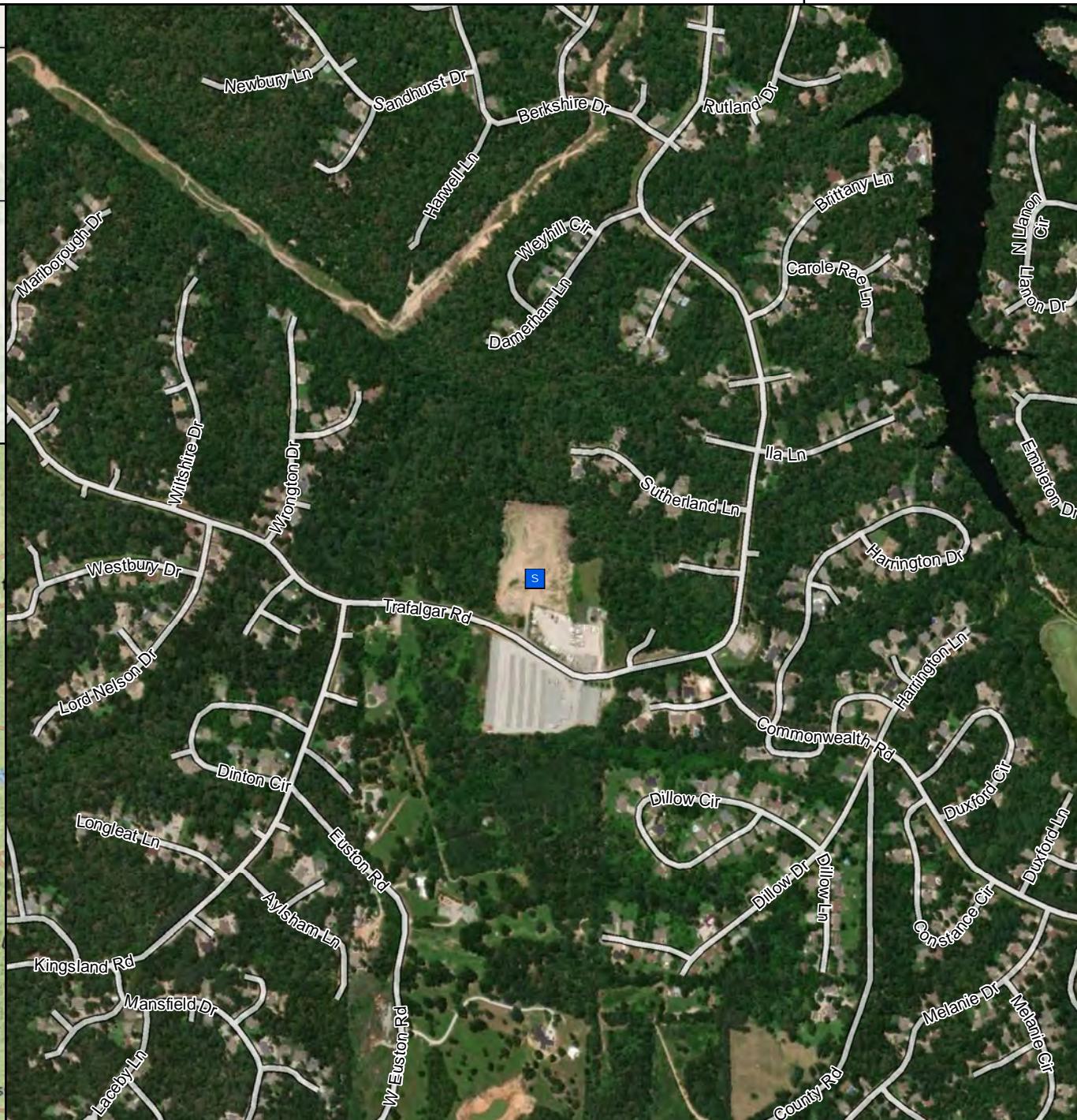
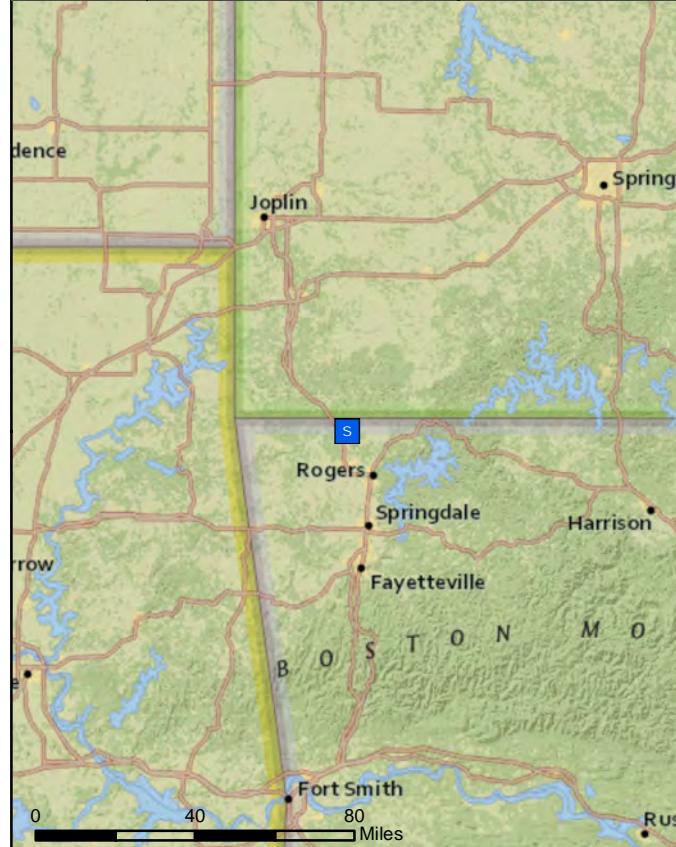


Project: 111327

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

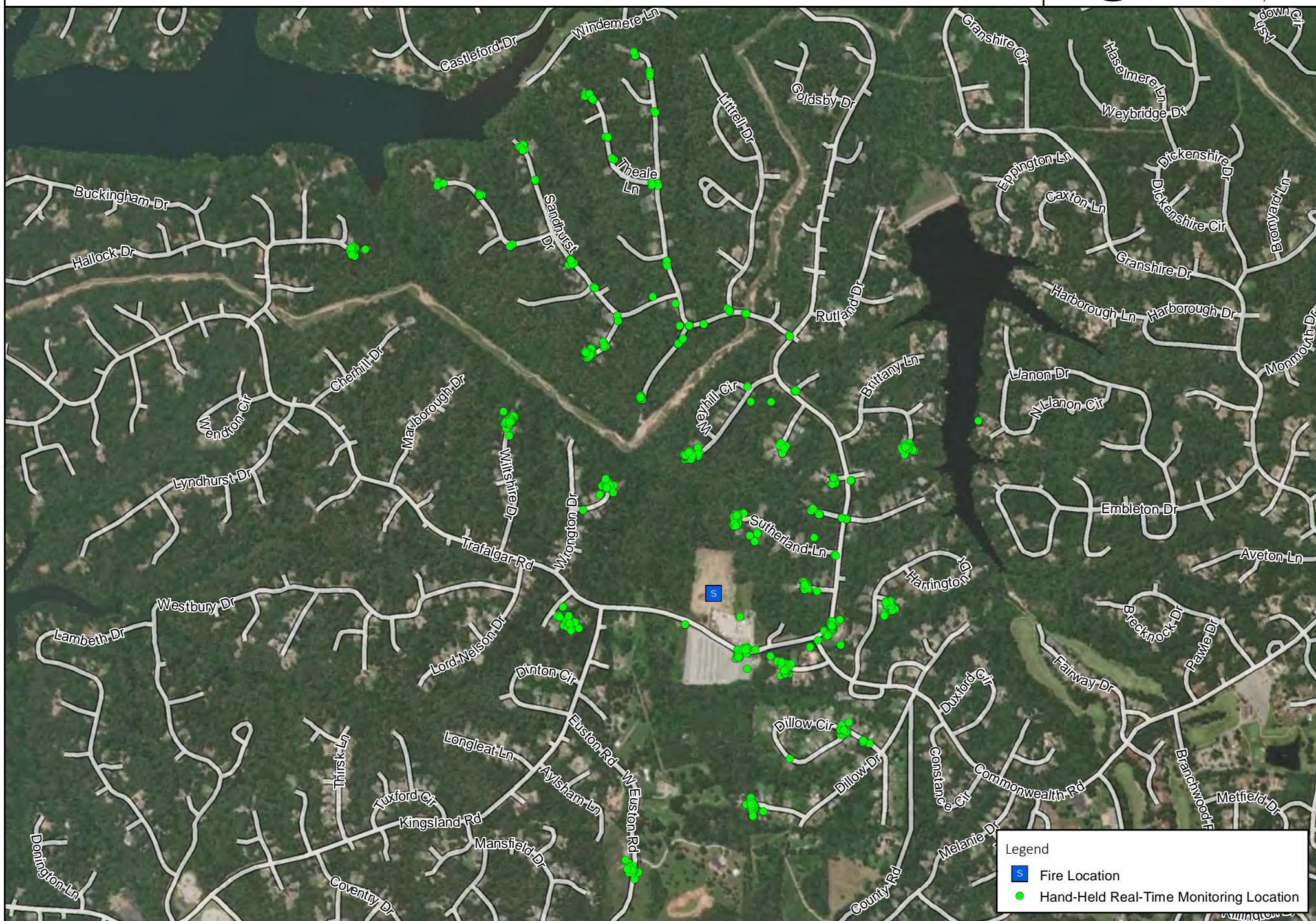


Figure 3: Real-Time Air Monitoring Locations (PM<sub>2.5</sub>)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet



Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton

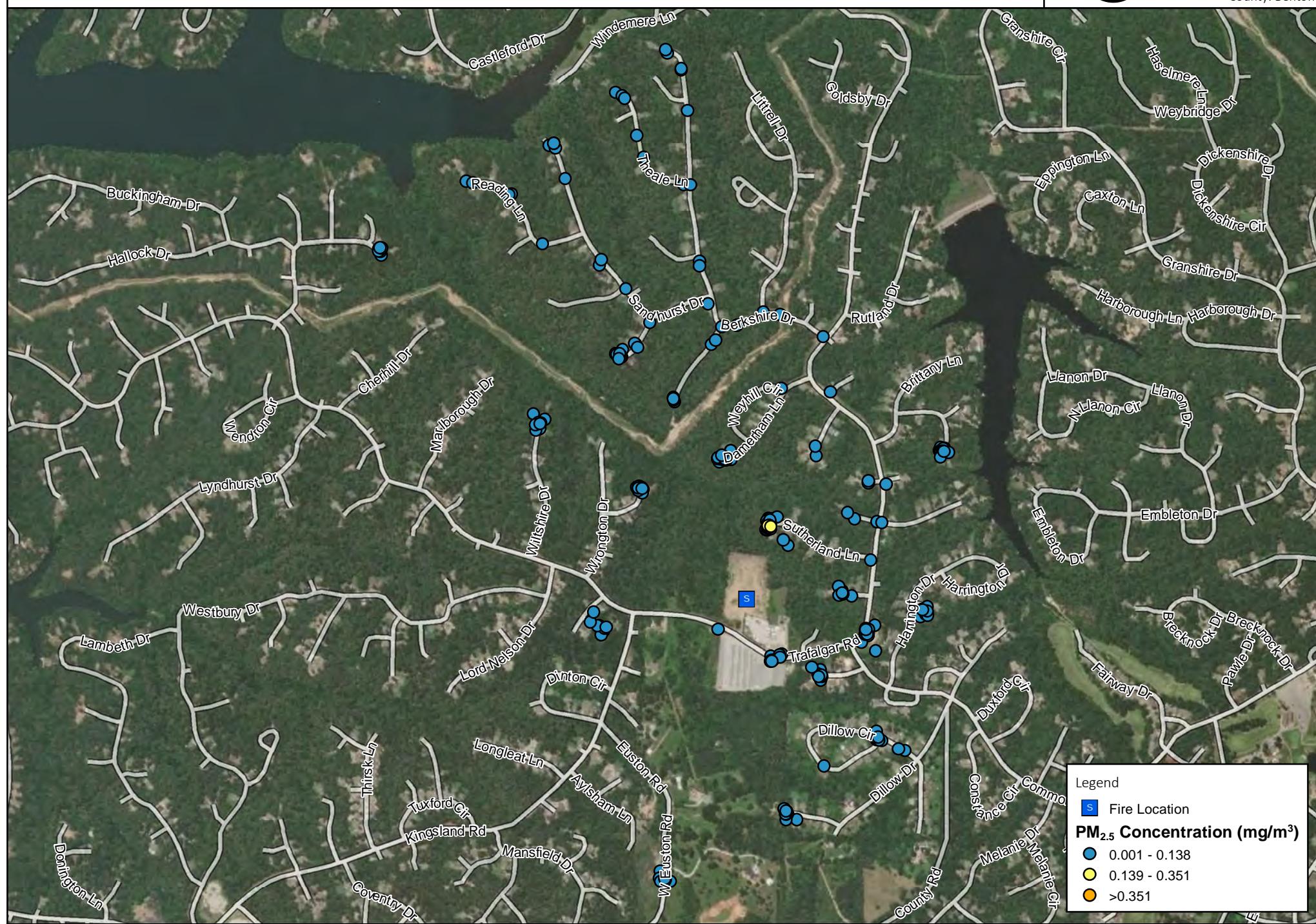


Figure 4: Real-Time Air Monitoring Locations (CO)

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet

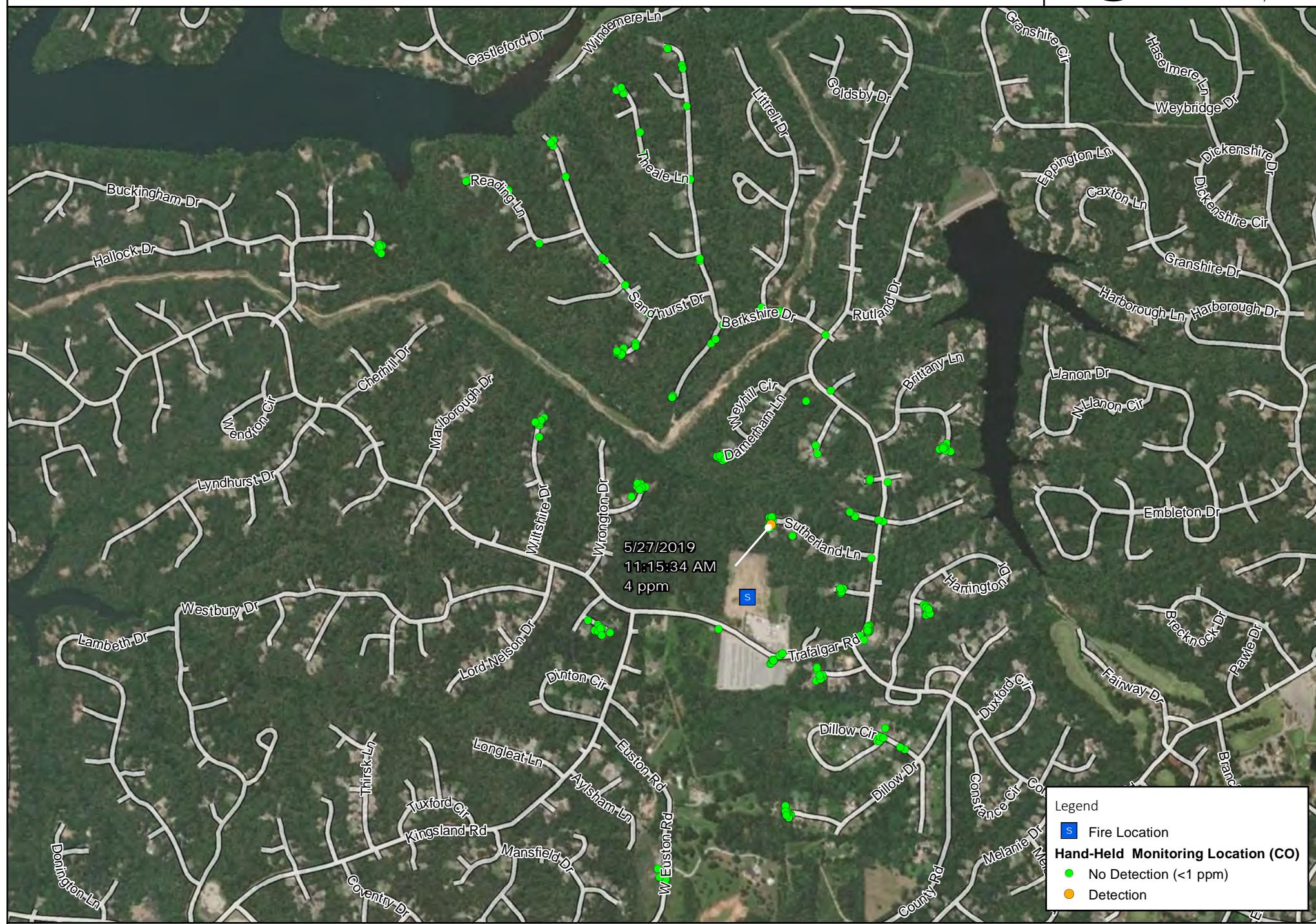


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



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

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet

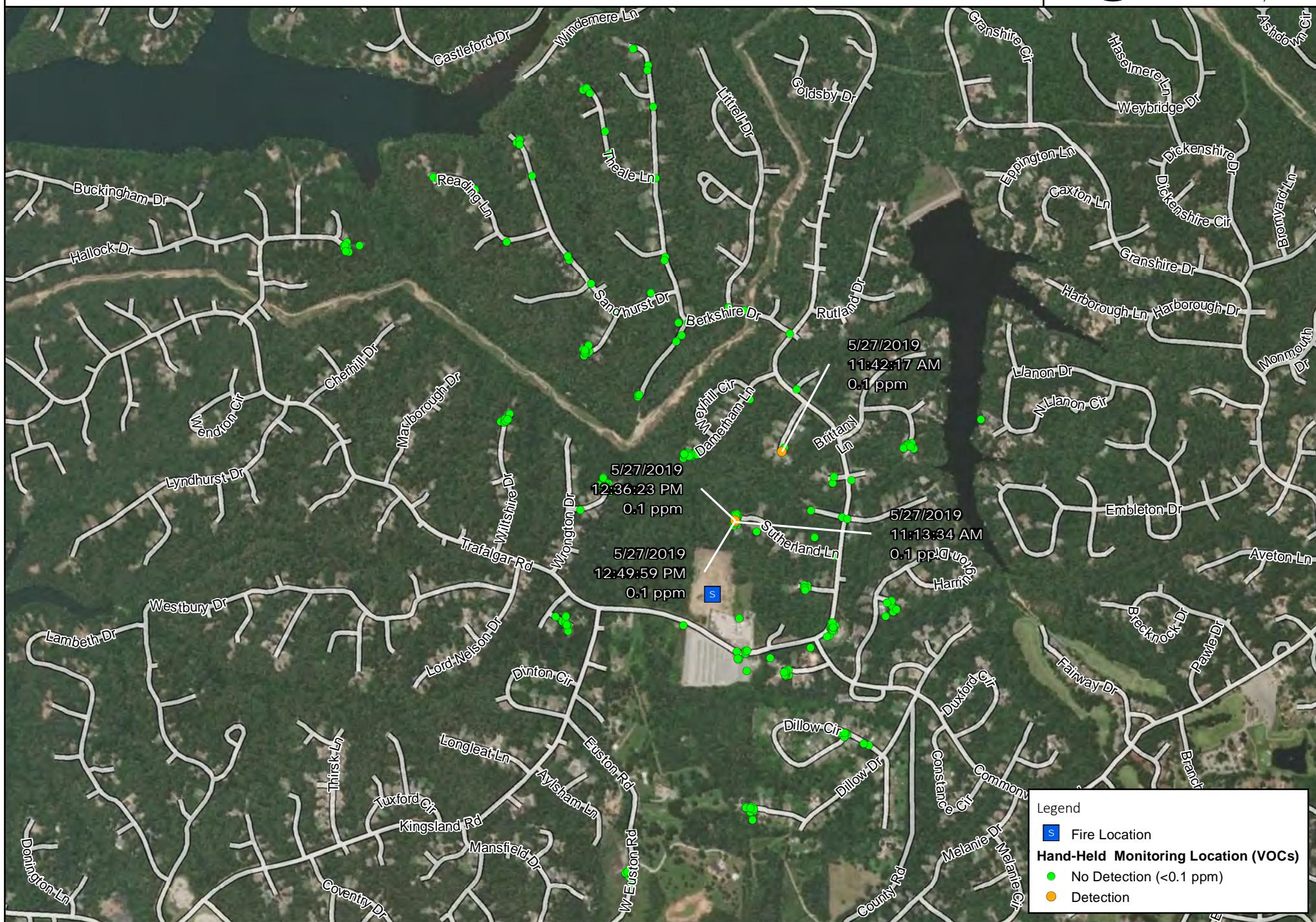


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



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

Bella Vista Trafalgar Road Fire

0 500 1,000 Feet

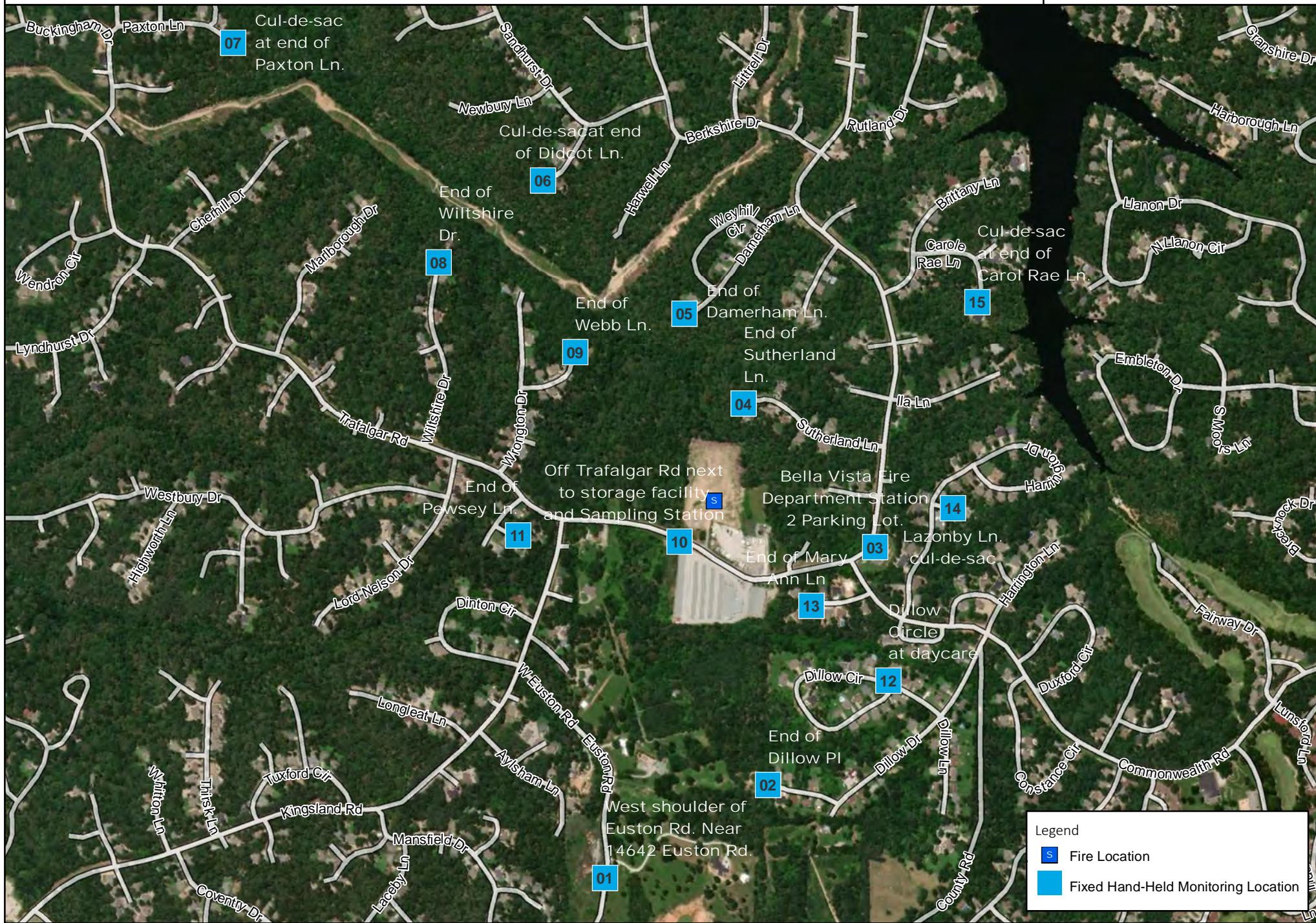


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



## Figure 7: Analytical Air Sampling Location

Bella Vista Trafalgar Road Fire

0 0.25 0.5 Miles

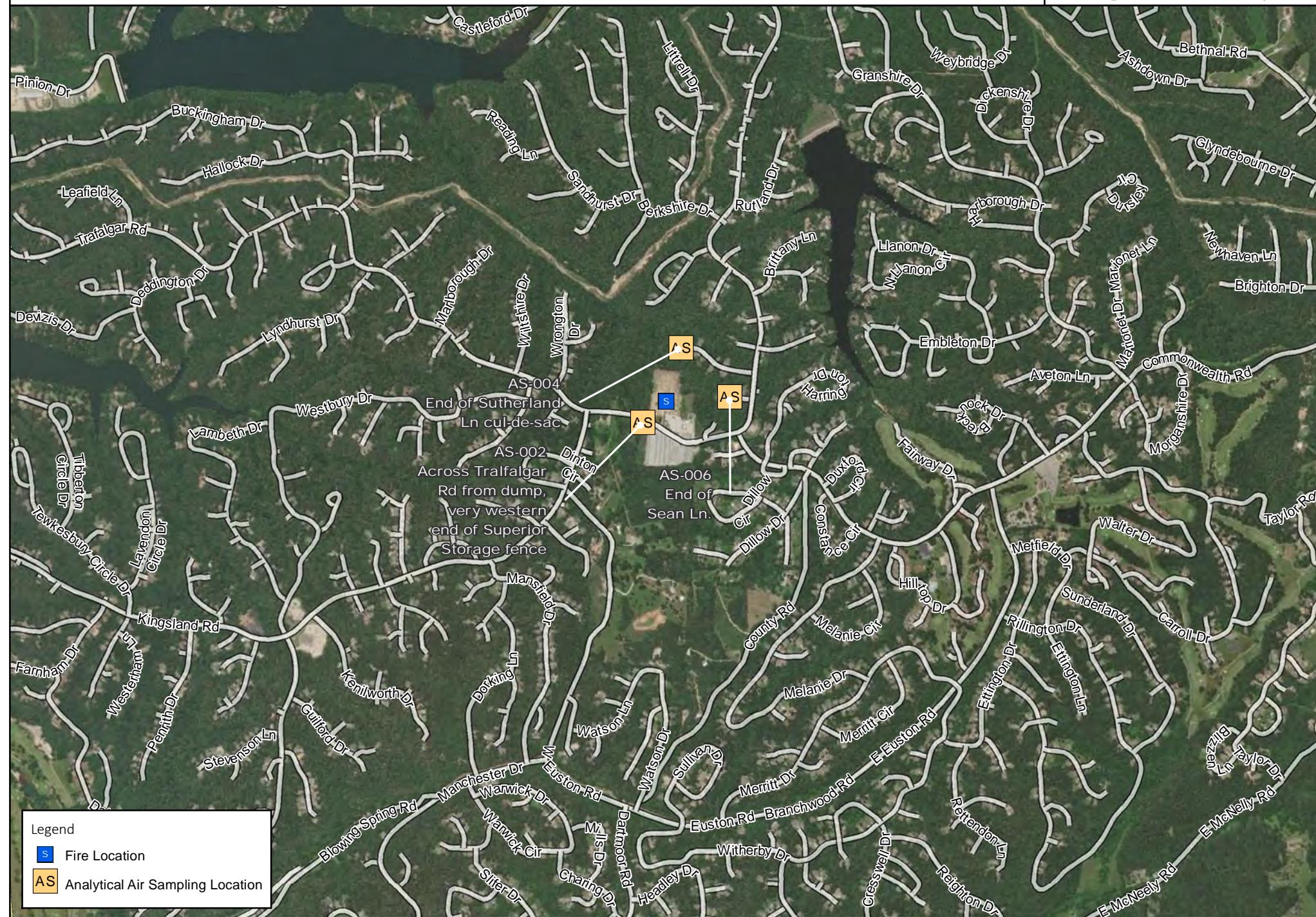


Project: 111327

Client: ERM

City: Bella Vista, AR

County: Benton



## Legend

S Fire Location

AS Analytical Air Sampling Location

## Attachment B

---

### Meteorological Conditions

Project #111327  
May 27, 2019 07:00 to May 28, 2019 07:00

