



MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

MONITORING NETWORK PLAN 2024



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1.0 Background

Federal Regulations (40 CFR 58.10) require that State and Local Agencies operating an ambient air quality monitoring network shall review their air quality monitoring network on an annual basis. Any needed modifications to the network should be identified. A detailed monitoring network description should also be included. In addition, the plan shall be available for public comment. MDEQ's Monitoring Network Plan is available on the MDEQ website at <http://www.deq.state.ms.us>.

The Monitoring Network review that is specified in *40 CFR 58.10* contains the following elements that apply to each monitoring site:

- The Air Quality System (AQS) site identification number.
- The location, including street address and geographical coordinates.
- The sampling and analysis method(s) for each measured parameter.
- The operating schedules for each monitor.
- Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal.
- The monitoring objective and spatial scale of representativeness for each monitor as defined in appendix D of part 58.
- The identification of any sites that are suitable and sites that are not suitable for comparison against the annual Particulate Matter (PM)_{2.5} and Ozone National Ambient Air Quality Standards (NAAQS) as described in part 58.30.
- The Metropolitan Statistical Area (MSA), Core Based Statistical Area (CBSA), Consolidated Statistical Area (CSA) and other areas represented by the monitor.
- The annual monitoring network plans and or periodic network assessments are subject to Regional approval according to part 58.14.

2.0 Overview

In the State of Mississippi, the Mississippi Department of Environmental Quality (MDEQ) is the only agency operating an ambient air quality network. There are no local agencies. In Mississippi, as in other State agencies, network monitors are operated for a variety of monitoring objectives. These objectives include determining if an area of the State meets the NAAQS, for public information such as the Environmental Protection Agency (EPA) AirNow data mapping web site, Air Quality Index (AQI) reporting for public information, background data collection, spatial considerations, and special projects. The AQI forecast is currently reported for the Jackson Metro area, Biloxi/Gulfport area and DeSoto County area on the MDEQ web site at <https://www.mdeq.ms.gov/air/air-quality-forecast/>. In addition, hourly Ozone (O₃), Particulate Matter (PM), Nitrogen Dioxide (NO₂), Sulfur Dioxide (SO₂), and Carbon Monoxide (CO) data is reported to the EPA AirNow website.

All site data are suitable for the NAAQS comparisons per appendices A, C, D, and E. MDEQ's Quality Management Plan (QMP) is current with an approval date of 10/03/2019, while the Criteria Pollutants Quality Assurance Project Plan (QAPP) has an EPA approval date of 12/06/18. The QMP was reviewed February 2023. The QAPP was reviewed and revised on May 15, 2023. The revised

QAPP is currently being reviewed by EPA for approval. MDEQ's SOPs were reviewed, revised, and submitted to EPA (November - December 2022 and January - April 2023).

40 CFR 58 has set minimum monitoring requirements for the pollutants that are to be compared with the NAAQS. These minimum requirements are based on population, the level of monitored pollutants, and MSA as defined in the latest US Census information (See 10.0 for the US Census information). The tables below and the discussion on the following pages summarize this information.

3.0 Site Discussion

Mississippi's air quality monitoring network has been reviewed based on the historic monitoring data, air quality monitoring regulations, data representation based on spatial considerations, special data needs and changes needed based on the monitoring regulations. The items used in the evaluation were the AQS database, the 40 Code of Federal Regulations (CFR) parts 53 and 58 documents, census data and maps. All monitors operated by MDEQ are State and Local Air Monitoring Stations (SLAMS).

The following sections describe the purposes and any changes related to each site in the ambient air monitoring network in the State of Mississippi based on our review of existing monitoring efforts.

4.0 Metropolitan Statistical Area (MSA)-NON MSA

Memphis MSA:

1. **Hernando** (DeSoto Co. 28.033.0002) – MDEQ operates an O₃ monitor, and a continuous Federal Equivalent Method (FEM) PM_{2.5} monitor at this site that is designated as a transport monitor and therefore is a required monitor. MDEQ has a Regional Monitoring Agreement (RMA) with Shelby County, TN Health Department, and Arkansas Department of Energy and Environment Division of Environmental Quality to meet Appendix D requirements section 2, e. A copy of this agreement is attached (See Section 11.0) and is on file at EPA Region 4. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's siting criteria information.
 - **Sampling train:** The probe tubing is Fluorinated Ethylene Propylene (FEP), and the probe fittings are Perfluoroalkoxy (PFA). The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's O₃ Residence Time.

Jackson MSA:

1. **Jackson NCore** (Hinds Co. 28.049.0020) – The NCore site contains a full complement of monitors, including meteorological. The monitoring parameters currently include O₃, SO₂, CO, Nitric Oxides as NO_y, manual Federal Reference Method (FRM) PM_{2.5}, continuous FEM PM_{2.5}, continuous FEM PM₁₀, FEM PM_{10-2.5}, speciated PM_{2.5}, wind speed, wind direction, ambient temperature, and relative humidity. The FEM PM_{2.5} continuous monitor operates as the primary PM_{2.5} monitor while

the FRM PM_{2.5} will operate 1/3-day. MDEQ has no plans to change the current monitoring efforts at this site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Jackson NCore siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's O₃, SO₂, CO Residence Time.
2. **Jackson Metro MSA** (Hinds Co. 28.049.0021) – MDEQ operates an O₃ monitor, and a continuous FEM PM_{2.5} monitor at this site. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Hinds Co. siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's O₃ Residence Time.

Hattiesburg MSA:

1. **Hattiesburg** (Forrest Co. 28.035.0004) – MDEQ operates a continuous FEM PM_{2.5} monitor at this site. In addition, a collocated FRM PM_{2.5} monitor will continue to operate on a 1/6-day schedule to meet MDEQ's collocated requirements. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Hattiesburg siting criteria information.

Gulfport-Biloxi-Pascagoula MSA:

1. **Gulfport** (Harrison Co. 28.047.0008) – MDEQ operates an ozone monitor, and a continuous FEM PM_{2.5} monitor at this site. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Gulfport siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE Residence Time.
2. **Waveland** (Hancock Co. 28.045.0003) – MDEQ operates an ozone monitor, and a continuous FEM PM_{2.5} monitor at this site. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Waveland siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE Residence Time.

3. **Pascagoula** (Jackson Co. 28.059.0006)- MDEQ operates an OZONE, SO₂, nitrogen oxide (NO_x) monitor, and a continuous FEM PM_{2.5} monitor at this site. The NO_x monitor is designated as an RA-40 site. The SO₂ monitor is designated as a population weighted exposure index (PWEI) site. MDEQ has no plans to change the current monitoring efforts at this site.

- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Pascagoula siting criteria information.
- **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE, SO₂ and NO_x Residence Time.

MDEQ will establish a Special Purpose Monitoring (SPM) station in the Cherokee Community of Pascagoula, MS by June 2024. This SPM station will be operated for a minimum of one year near the Cherokee community, which is situated in close proximity to the Bayou Casotte Industrial Complex. The pollutants of concern identified by EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) for the Cherokee Community include particulate matter smaller than 10 microns in diameter (PM₁₀), PM₁₀ metals, volatile organic compounds (VOC), and total reduced sulfur compounds. PM₁₀ and total reduced sulfur compounds will be monitored continuously, while PM₁₀ metals and VOCs will be sampled on a 1 in 6-day schedule. Additionally, near fenceline SPODs that trigger sample canisters are proposed for the project to capture any high concentration VOC plumes that may occur outside of a regularly scheduled sample day near the Bayou Casotte Industrial Complex.

This proposed multi-pollutant air quality monitoring project will obtain quality, long term monitoring data necessary to identify the presence of any air quality problem associated with the pollutants of greatest concern in the Cherokee community. The main concern for the Cherokee community is the potential for cumulative risk associated with the proximity to an industrial complex housing multiple types of industrial sources. The benefit of identifying whether an air quality problem exists in this Environmental Justice (EJ) community will be to (1) put citizens' minds at ease should no air quality problem be found or (2) give MDEQ and other agencies the necessary data to identify ways to mitigate any air quality problem and/or reduce any unacceptable risk to the community.

Non- MSA Sites:

1. **Meridian** (Lauderdale Co. 28.075.0003) – An ozone monitor is operated at this site. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Meridian siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE Residence Time.
2. **Tupelo** (Lee Co. 28.081.0005) – An ozone monitor is operated at this site. MDEQ has no plans to change the current monitoring efforts at this site.
 - **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's siting criteria information.

- **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE Residence Time.
3. **Cleveland** (Bolivar Co. 28.011.0002) – MDEQ operates an ozone monitor, and a continuous FEM PM_{2.5} monitor (Background) at this site. MDEQ has no plans to change the current monitoring efforts at this site.
- **Site Approval Status:** Site and monitors meet all design criteria for the monitoring network. See Appendix A for a summary of MDEQ's Cleveland siting criteria information.
 - **Sampling train:** The probe tubing is FEP, and the probe fittings are PFA. The stainless-steel fitting at the funnel has been drilled and the FEP tubing pushed through the fitting and extends into the funnel. See Appendix A for a summary of MDEQ's OZONE Residence Time.

5.0 NCore Site Tables

AQS ID	MSA	Site Name	County	City	Latitude	Longitude	Street Address	Elevation (meters)	Site start date	Location Setting
28-049-0020	Jackson	Jackson NCore	Hinds	Jackson	32.19.45	90.10.58	232 E Woodrow Wilson	93	7/01/2013	Urban and city center
Parameter		Monitoring Objective	Measurement Scale		Designation	Type	Method		Schedule	Comment
CO		Pop. Exp.	Neighborhood		NCore	Continuous Monitor	Non-Dispersive IR		Jan-Dec	
NO _y		Pop. Exp.	Neighborhood /Urban		NCore	Continuous Monitor	Chemiluminescence		Jan-Dec	
O ₃		Pop. Exp.	Neighborhood /Urban		NCore	Continuous Monitor	UV Photometry		Jan-Dec	
SO ₂		Pop. Exp.	Neighborhood		NCore	Continuous Monitor	UV fluorescence		Jan-Dec	
FRM PM _{2.5}		Pop. Exp	Neighborhood		NCore	Manual Reference Monitor (3 Day)	Gravimetric Analysis		Jan-Dec	
FEM PM _{2.5}		Pop. Exp	Neighborhood		NCore	Continuous Monitor	Broadband Spectroscopy		Jan-Dec	T640x
PM _{2.5} Speciation		Pop. Exp	Neighborhood		NCore	Manual Monitor (3 Day)	Multiple Methods		Jan-Dec	
PM coarse		Pop. Exp	Neighborhood		NCore	Continuous Monitor	Difference by Broadband Spectroscopy		Jan-Dec	T640x
Meteorological		--	--		NCore	--	Wind speed, direction, ambient temperature, humidity		Jan-Dec	
Radiation		Pop. Exp	Urban		Rad Net	Continuous / Manual Monitor			Jan-Dec	Non NCore

6.0 Network Tables

NETWORK DESIGN TABLES MISSISSIPPI

PM₁₀

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Collocated	Type	Method	Schedule	Comment
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Urban	1	No	Continuous	239	Jan-Dec	T640x

PM2.5

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Collocated	Type	Method	Schedule
Hernando	DeSoto	Memphis	28-033-0002	Transport	Urban	1	No	Continuous	236 T640	Jan-Dec
Hattiesburg	Forrest	Hattiesburg	28-035-0004	Pop. Exp.	Neighborhood	1	Yes	Manual (1/6 day) collocated Continuous	145 SEQ 236 T640	Jan-Dec Jan-Dec
Waveland	Hancock	Gulf/Biloxi	28-045-0003	Pop. Exp.	Neighborhood	0	No	Continuous	236 T640	Jan-Dec
Gulfport	Harrison	Gulf/Biloxi	28-047-0008	Pop. Exp.	Neighborhood	1	No	Continuous	236 T640	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	No	Continuous	236 T640	Jan-Dec
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	No	PM10-2.5 (primary) Manual (3 Day) Continuous	238 T640x 240 T640x 145 SEQ	Jan-Dec Jan-Dec Jan-Dec
Jackson	Hinds	Jackson	28-049-0021	Pop. Exp.	Neighborhood	1	No	Continuous	236 T640	Jan-Dec
Cleveland	Bolivar	N/A	28-011-0002	Background	Neighborhood	1	No	Continuous	236 T640	Jan-Dec

Comments: All manual monitors are FRM and classified as SLAMS. The continuous FEM monitors will be primary.

SO2

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	Continuous	600	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	Continuous	060	Jan-Dec

Comments: All monitors are classified as SLAMS

NOx/NOy

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood /Urban	1	Continuous	699	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	Continuous	099	Jan-Dec

Comments: All monitors are classified as SLAMS

CO

Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	Continuous	055	Jan-Dec

OZONE

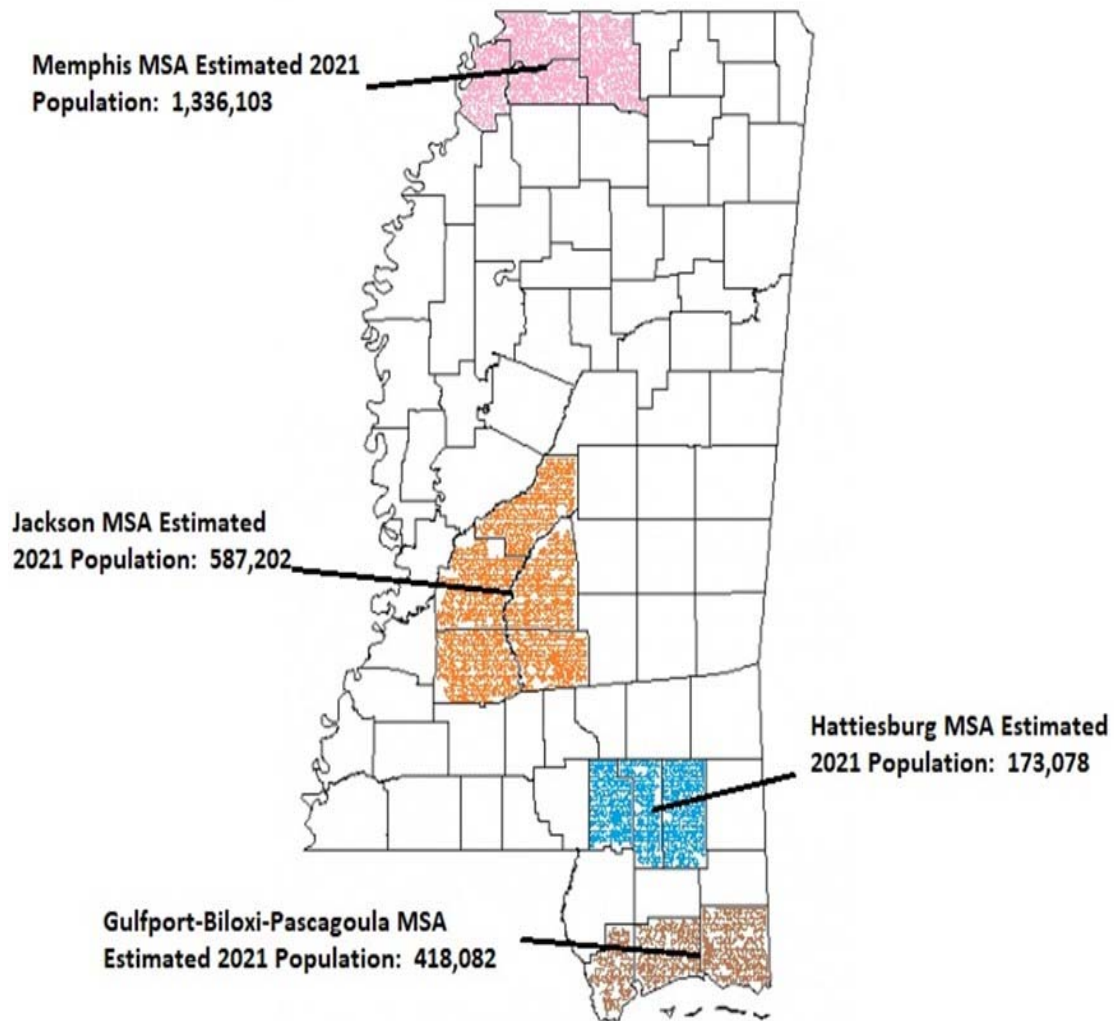
Location	County	MSA	AQS ID	Monitoring Objective	Measurement Scale	MSA Min Required	Type	Method	Schedule
Cleveland	Bolivar	N/A	28-011-0002	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Gulfport	Harrison	Gulf/Biloxi/Pas	28-047-0008	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Waveland	Hancock	Gulf/Biloxi/Pas	28-045-0003	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Hernando	DeSoto	Memphis	28-033-0002	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Jackson	Hinds	Jackson	28-049-0021	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Urban	1	Continuous	UV Absorp	Jan - Dec
Meridian	Lauderdale	N/A	28-075-0003	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Pascagoula	Jackson	Gulf/Biloxi/Pas	28-059-0006	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Tupelo	Lee	N/A	28-081-0005	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct

Comments: All monitors are classified as SLAM

7.0 Site Location Coordinates

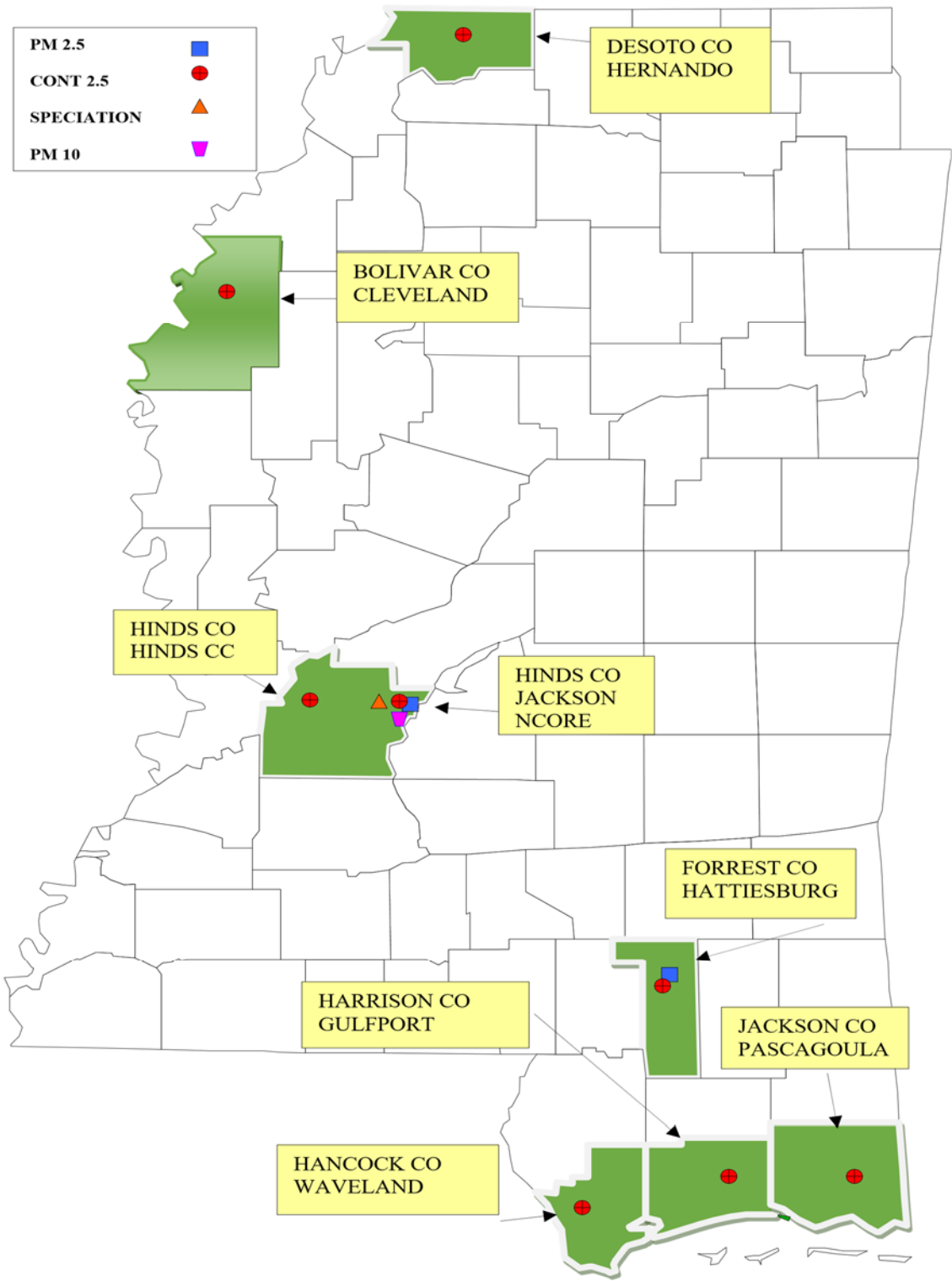
	SITE ID	LAT		LONG				NAME	COUNTY	ADDRESS
1	28-011-0002	33	45	3	90	44	3	CLEVELAND	BOLIVAR	HWY 8 Cleveland (Delta State)
2	28-033-0002	34	49	14	89	59	16	HERNANDO	DESOTO	5 East South St.
3	28-035-0004	31	19	26	89	17	32	HATTIESBURG	FORREST	101 Ferguson St.
4	28-045-0003	30	18	4	89	23	45	WAVELAND	HANCOCK	400 Baltic St.
5	28-047-0008	30	23	24	89	2	59	GULFPORT YC	HARRISON	47 Maples Dr.
	28-049-0021	32	19	14	90	10	50	HINDS CC	HINDS	3925 Sunset Dr.
7	28-049-0020	32	19	45	90	10	58	JACKSON NCORE	HINDS	232 E Woodrow Wilson
8	28-059-0006	30	22	41	88	32	2	PASCAGOULA	JACKSON	Hospital Rd. and LT Eugene J Majure Dr.
9	28-075-0003	32	21	52	88	43	53	MERIDIAN	LAUDERDALE	Hwy 19 and 53rd Ave.
10	28-081-0005	34	15	54	88	45	58	TUPELO	LEE	West Jackson at Tupelo Airport

8.0 MSA and Pollutant Maps

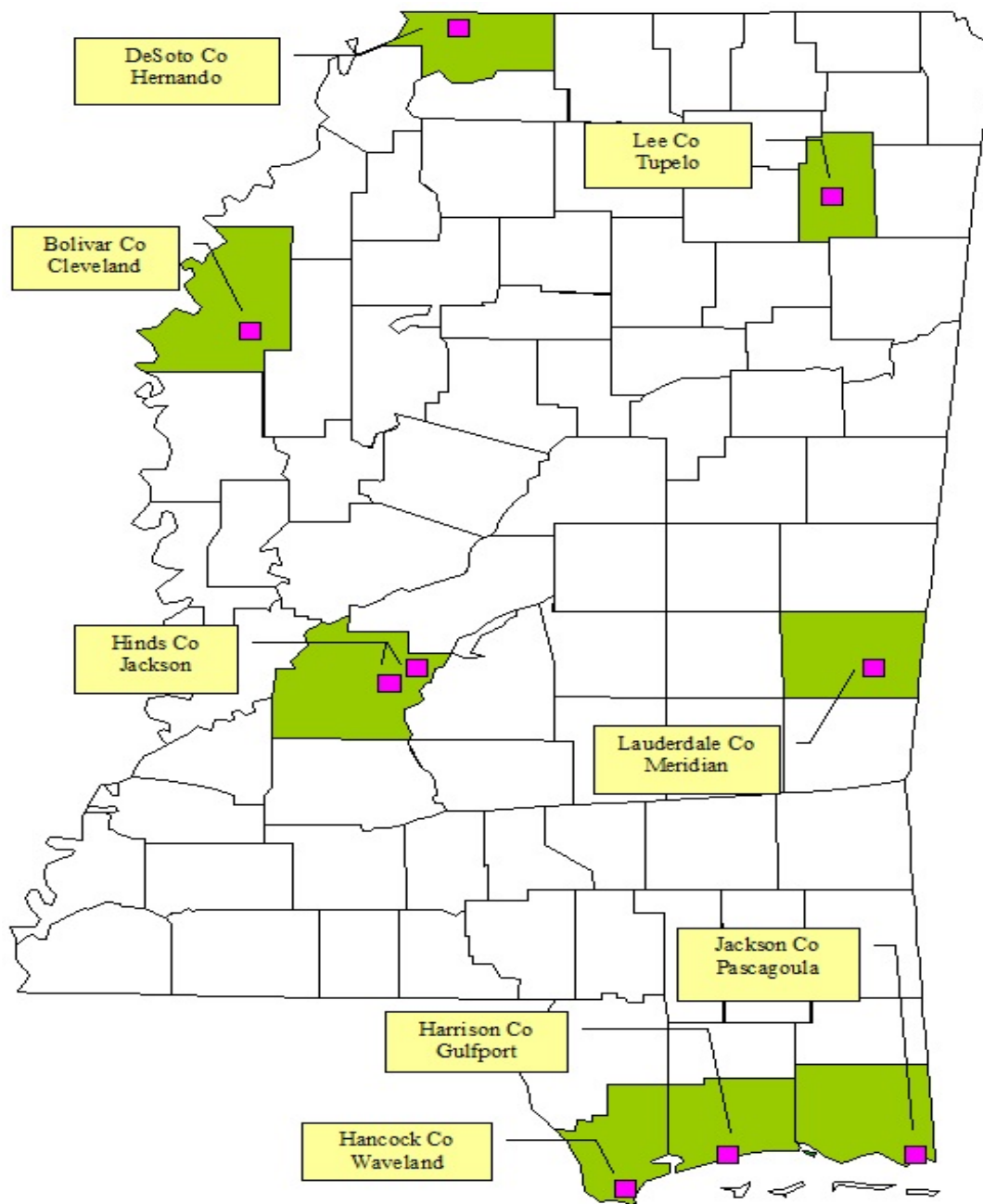


MISSISSIPPI MSA AREAS 2024

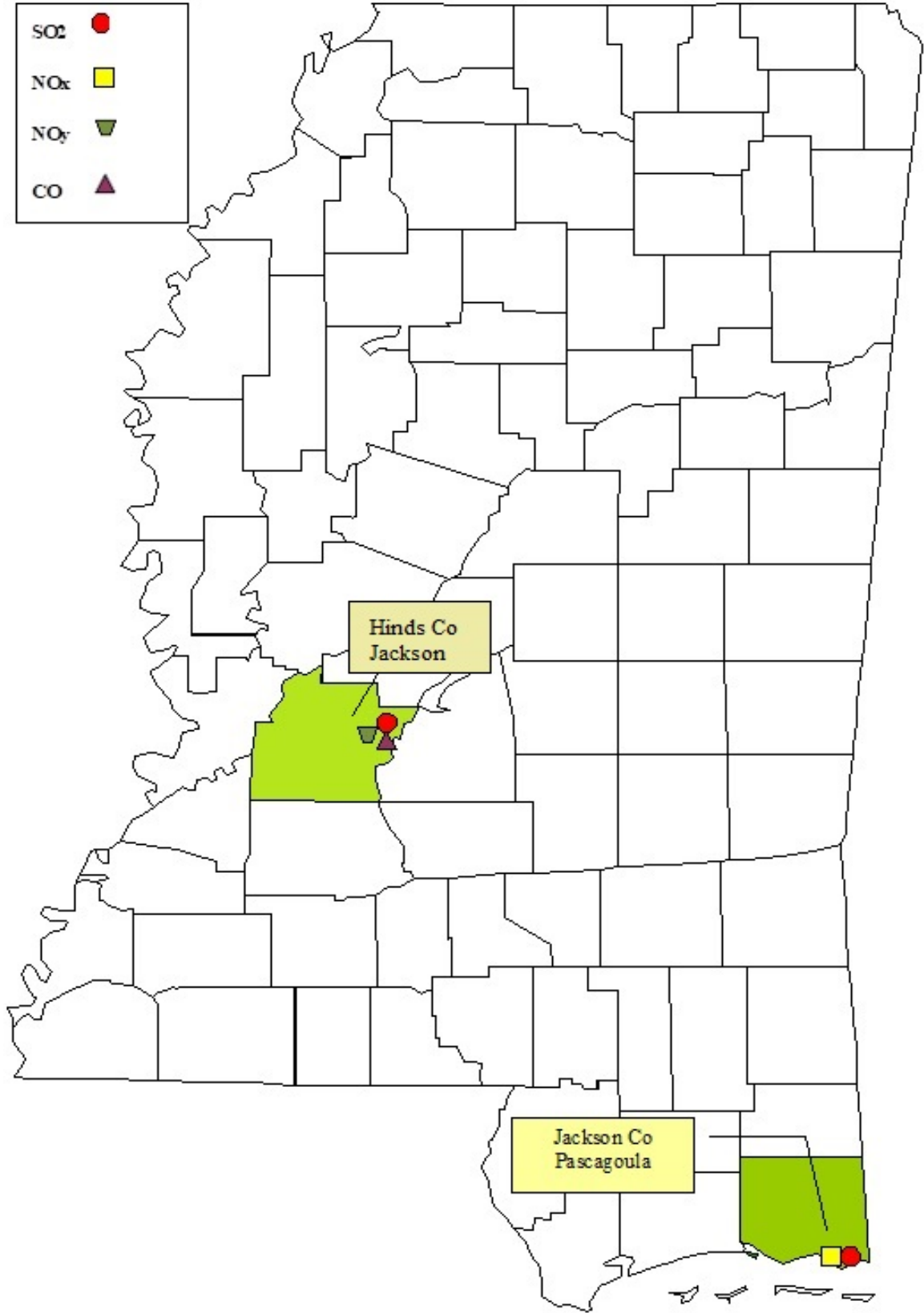
MEMPHIS – DeSoto, Tunica, Marshall, Tate
 JACKSON – Hinds, Rankin, Copiah, Simpson, Madison
 HATTIESBURG – Lamar, Forrest, Perry
 GULFPORT-BILOXI-PASAGOULA – Hancock, Harrison, Jackson



MDEQ PARTICULATE SITES 2024



MDEQ OZONE SITES - 2024



MDEQ SO2 / NOx/ NOy/ CO SITES - 2024

9.0 Site Maps and Current Photos

CLEVELAND



Cleveland-North (2023)



Cleveland-South (2023)



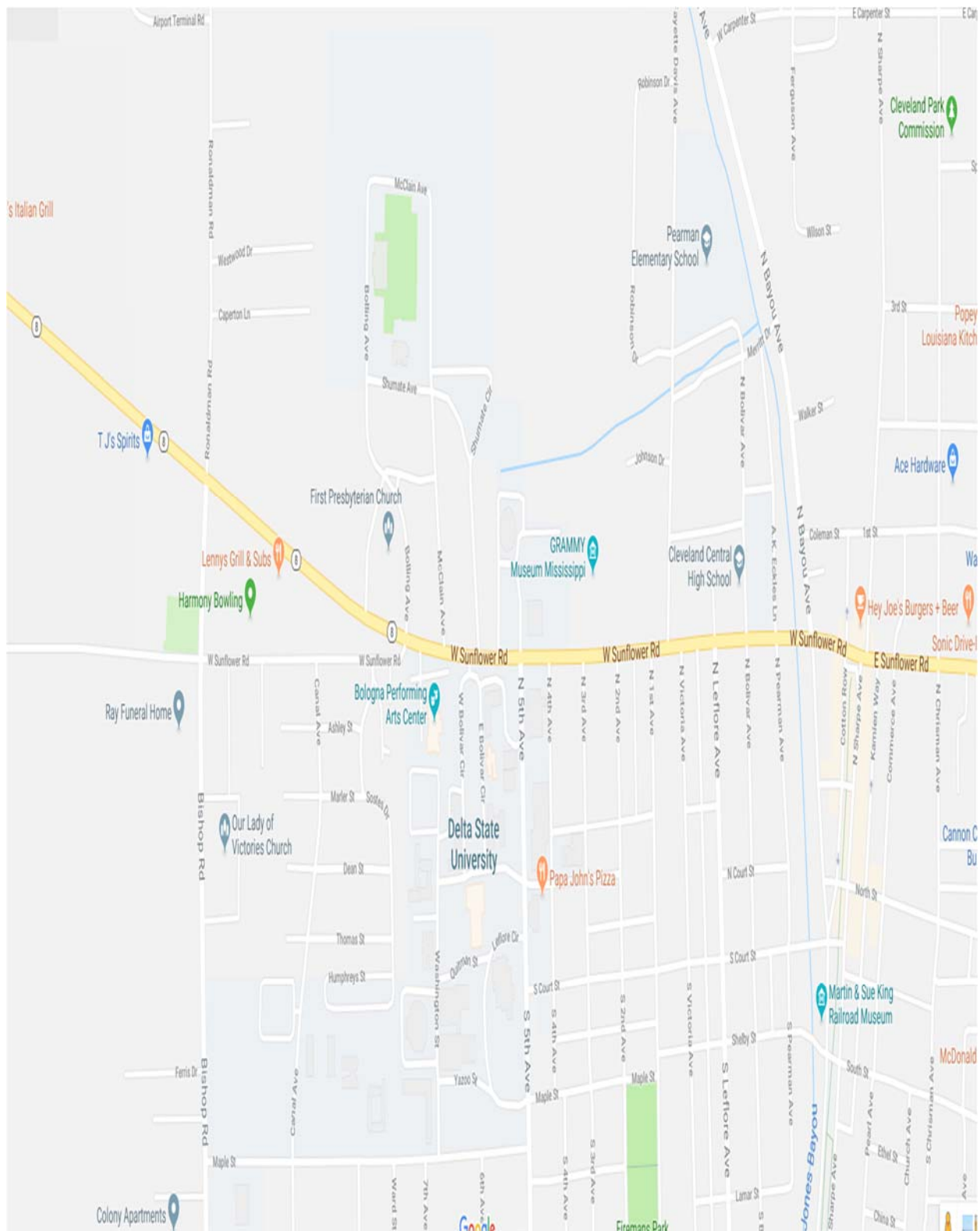
Cleveland-East (2023)



Cleveland-West (2023)



Cleveland-28-011-0002 (2023)





HERNANDO



Hernando-North (2023)



Hernando-South (2023)



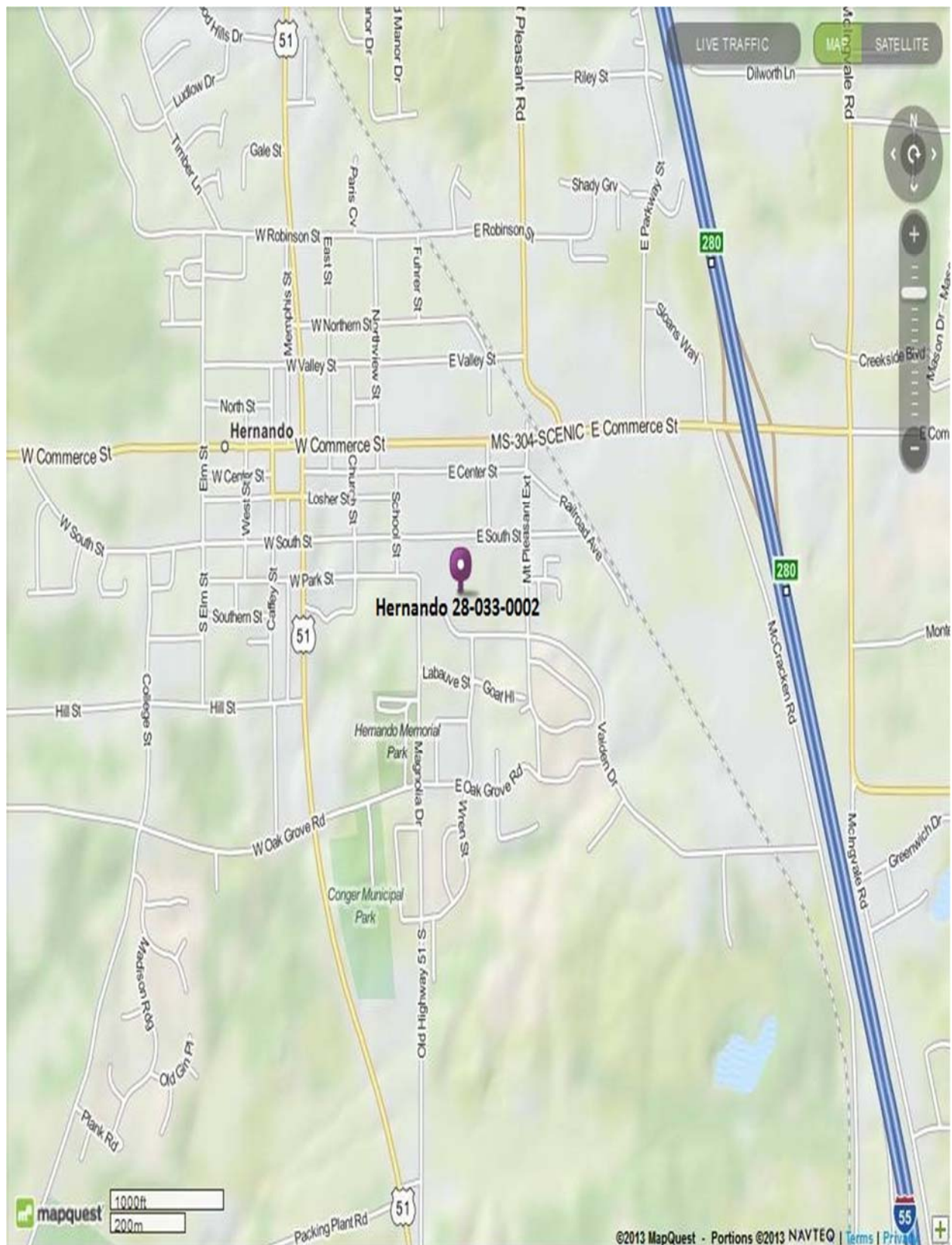
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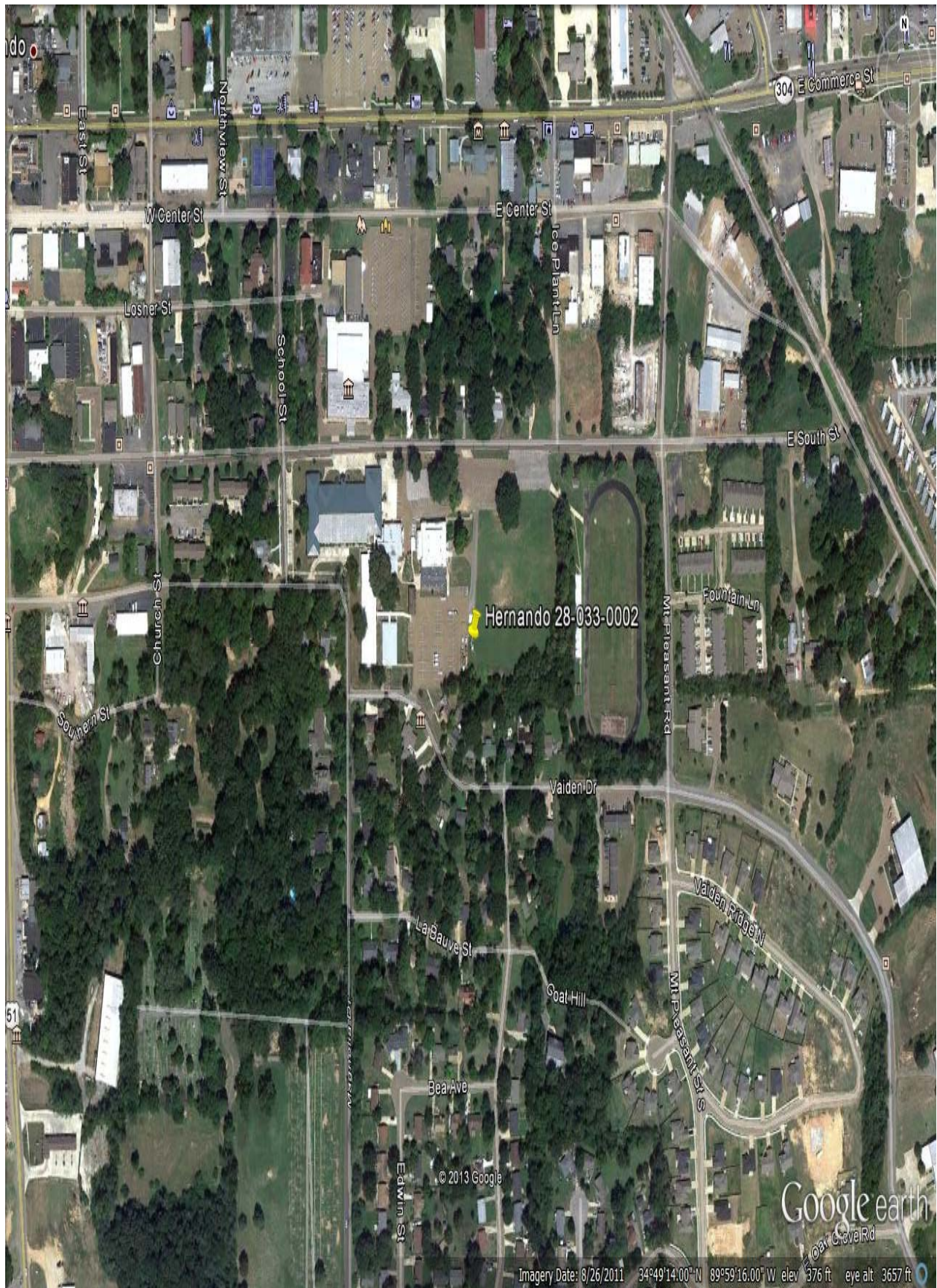


Hernando-West (2023)



Hernando-28-033-0002 (2023)





TUPELO



Tupelo-North (2023)



Tupelo-South (2023)



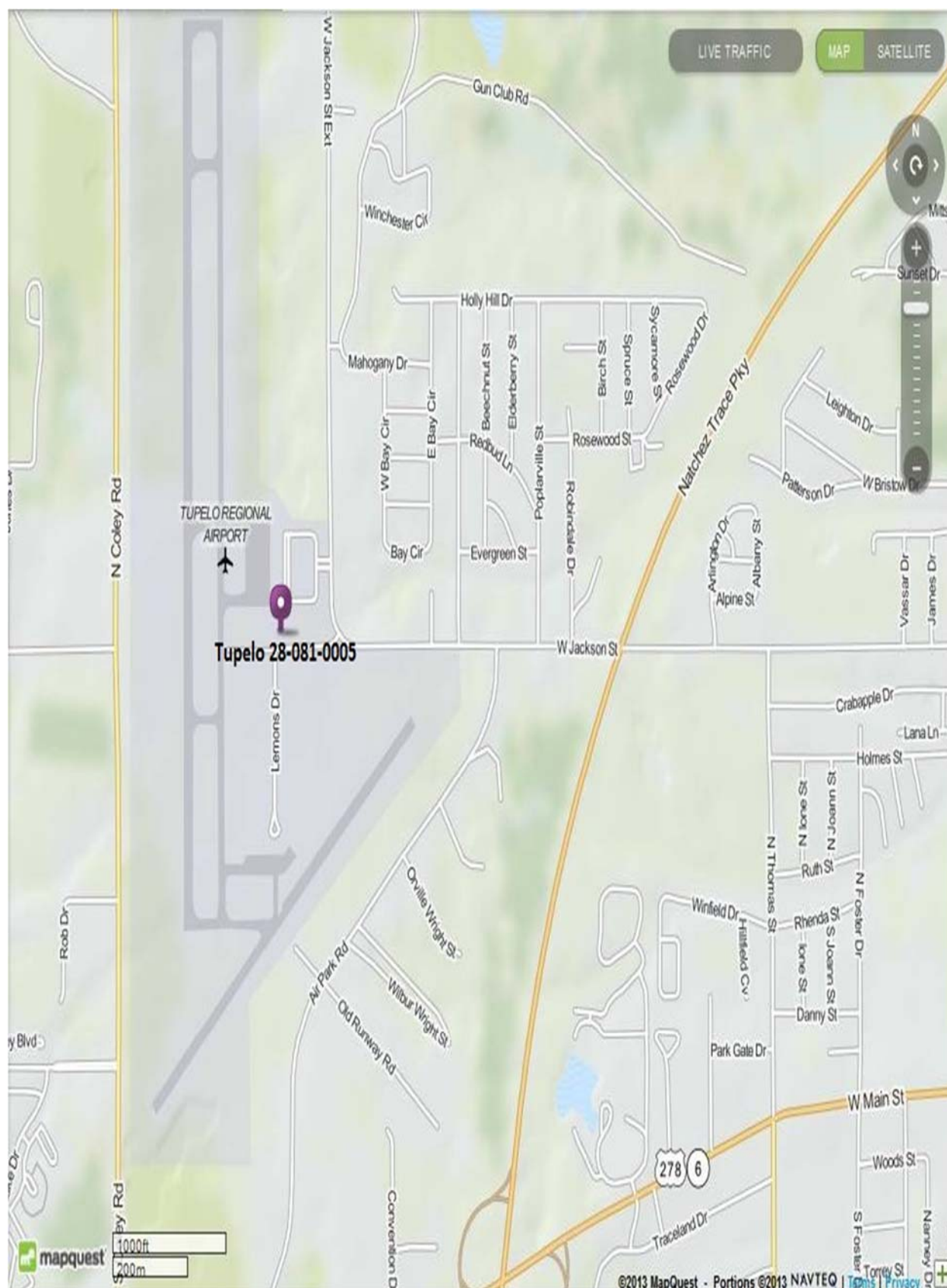
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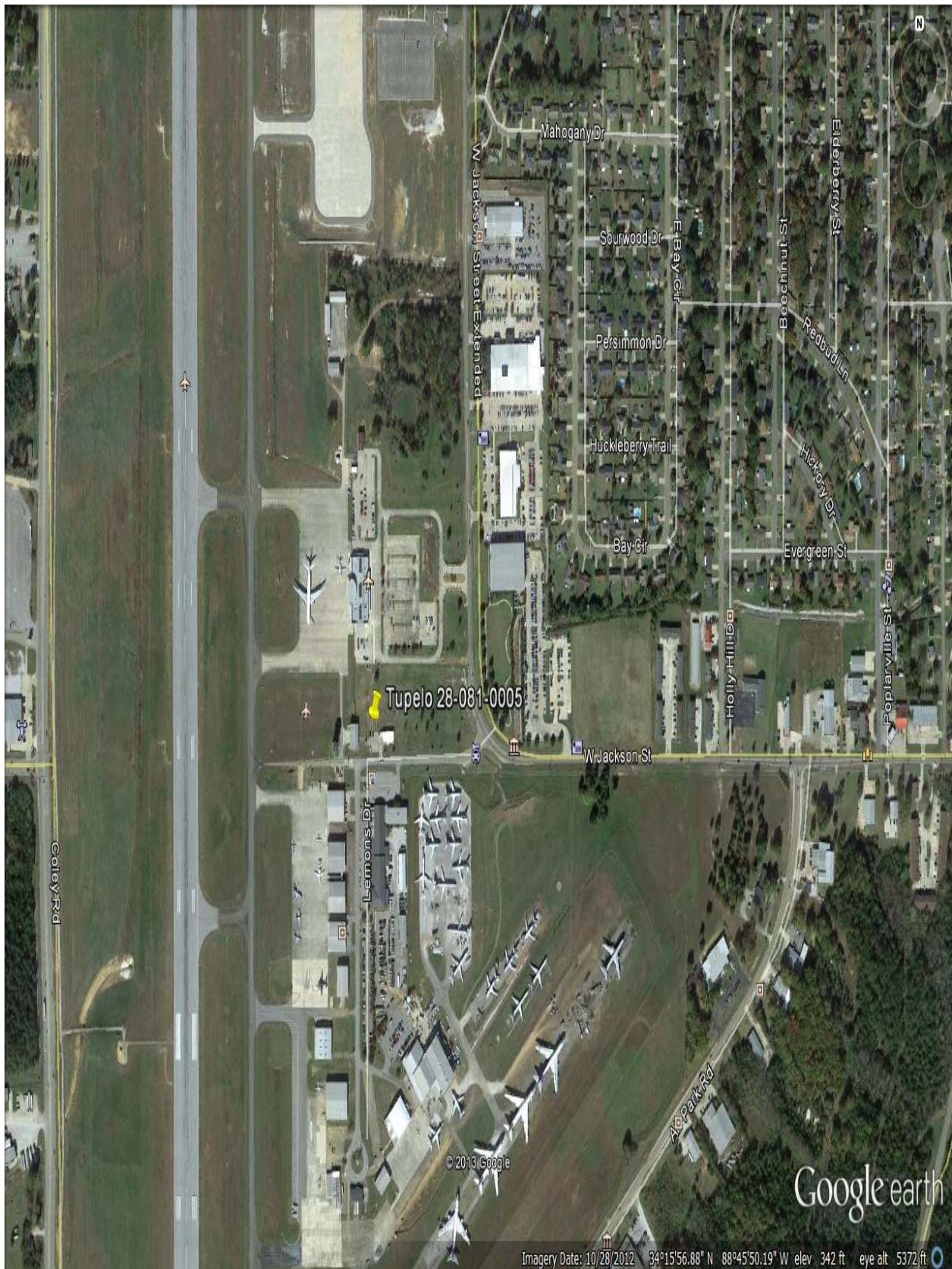


Tupelo-West (2023)



Tupelo-28-081-0005 (2023)





MERIDIAN



Meridian-North (2023)



Meridian-South (2023)



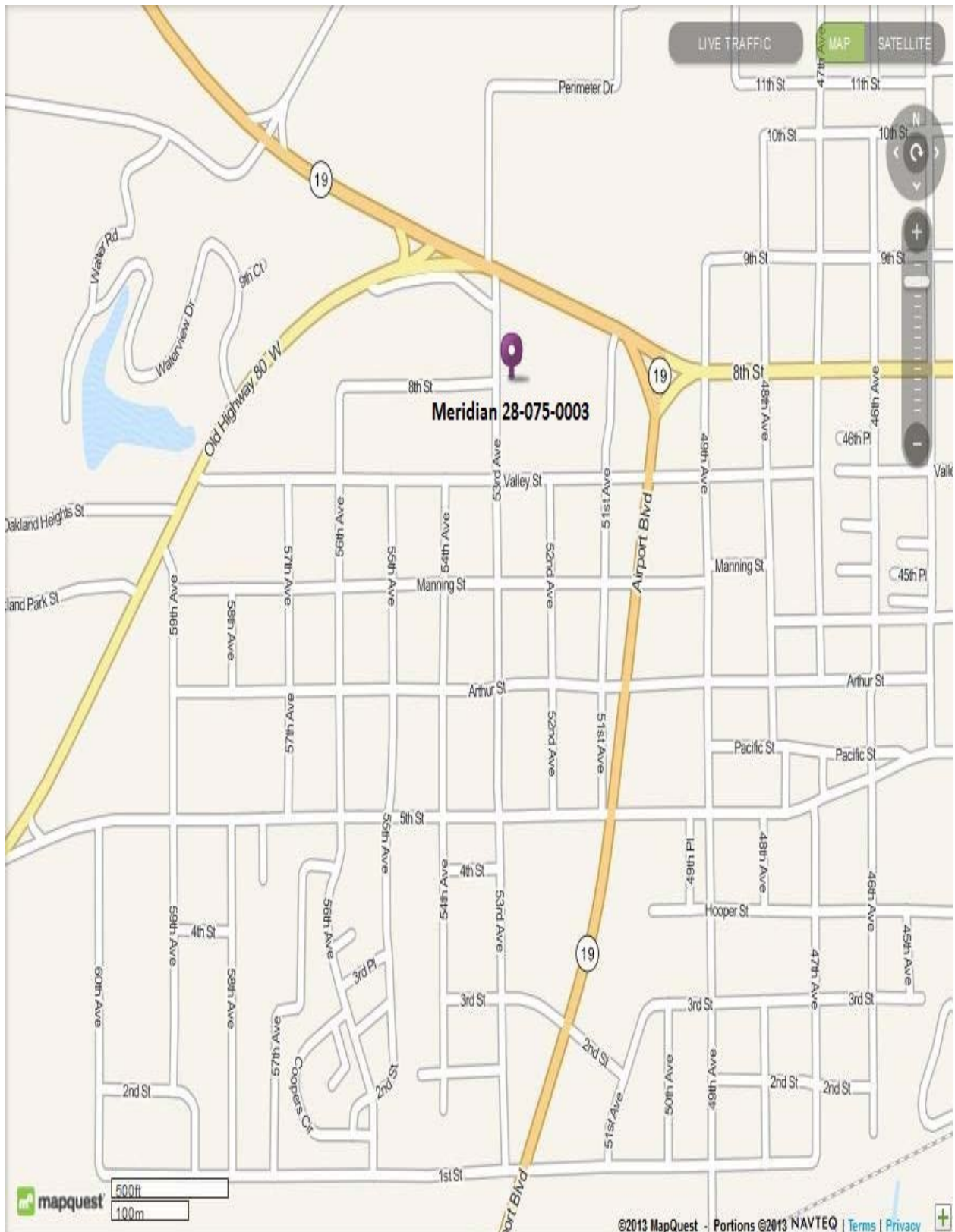
Meridian-East (2023)



Meridian-West (2023)



Meridian-28-075-0003 (2023)



NCORE



Ncore-North (2023)



Ncore-South (2023)



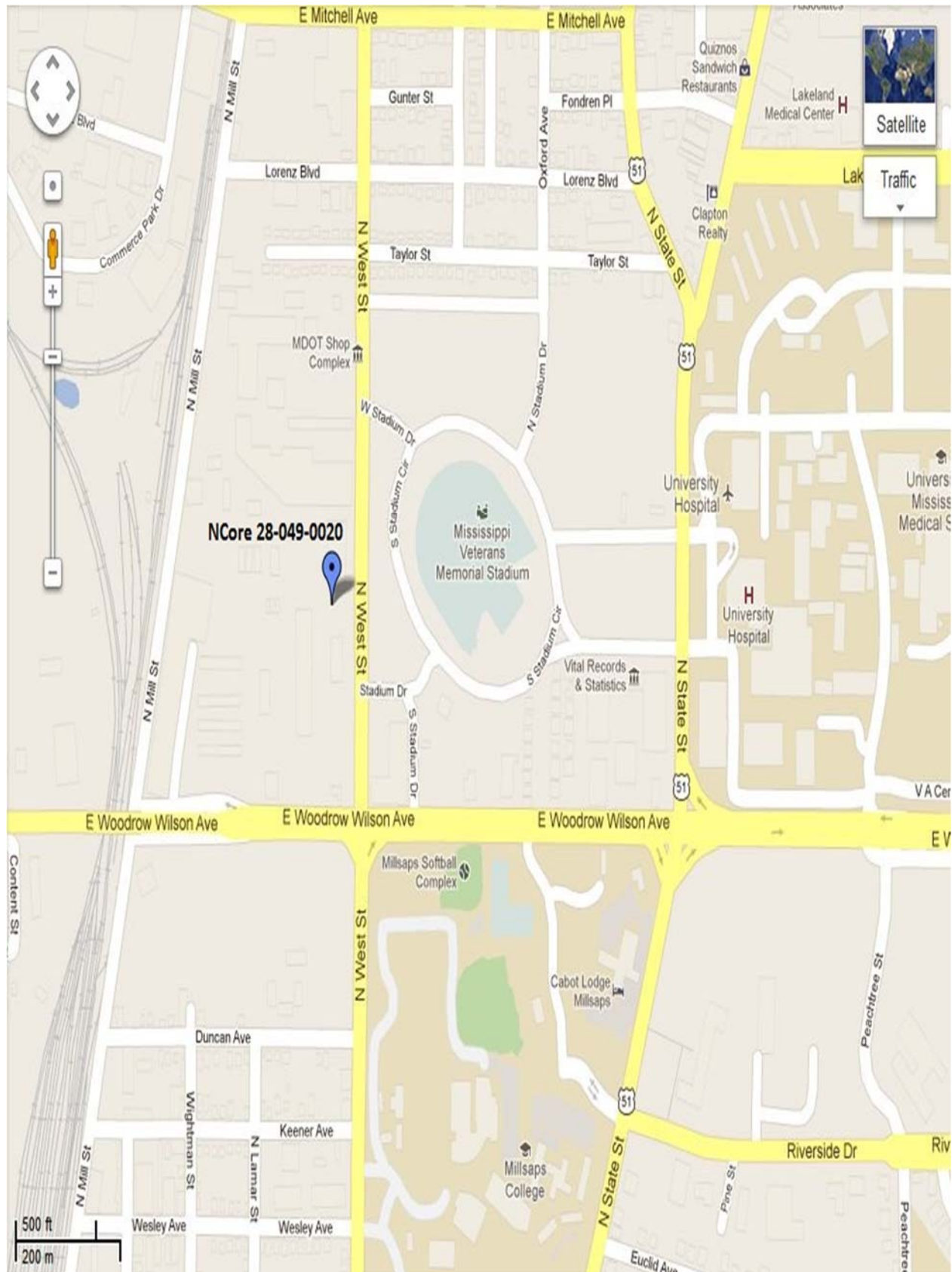
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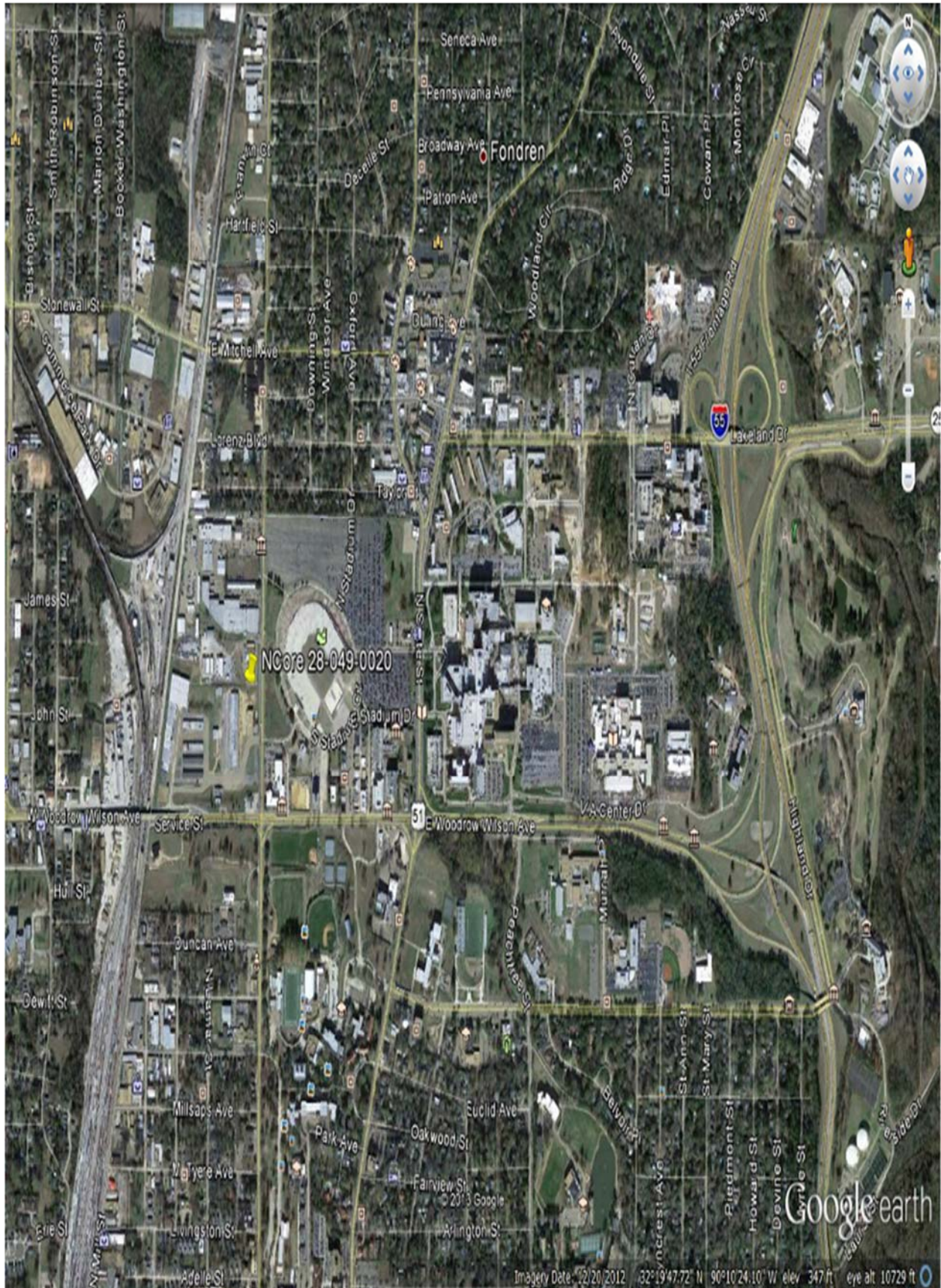


Ncore-West (2023)



Jackson Ncore-28-049-0020 (2023)





HINDS COMMUNITY COLLEGE (CC)



Hinds CC-North (2023)



Hinds CC-South (2023)



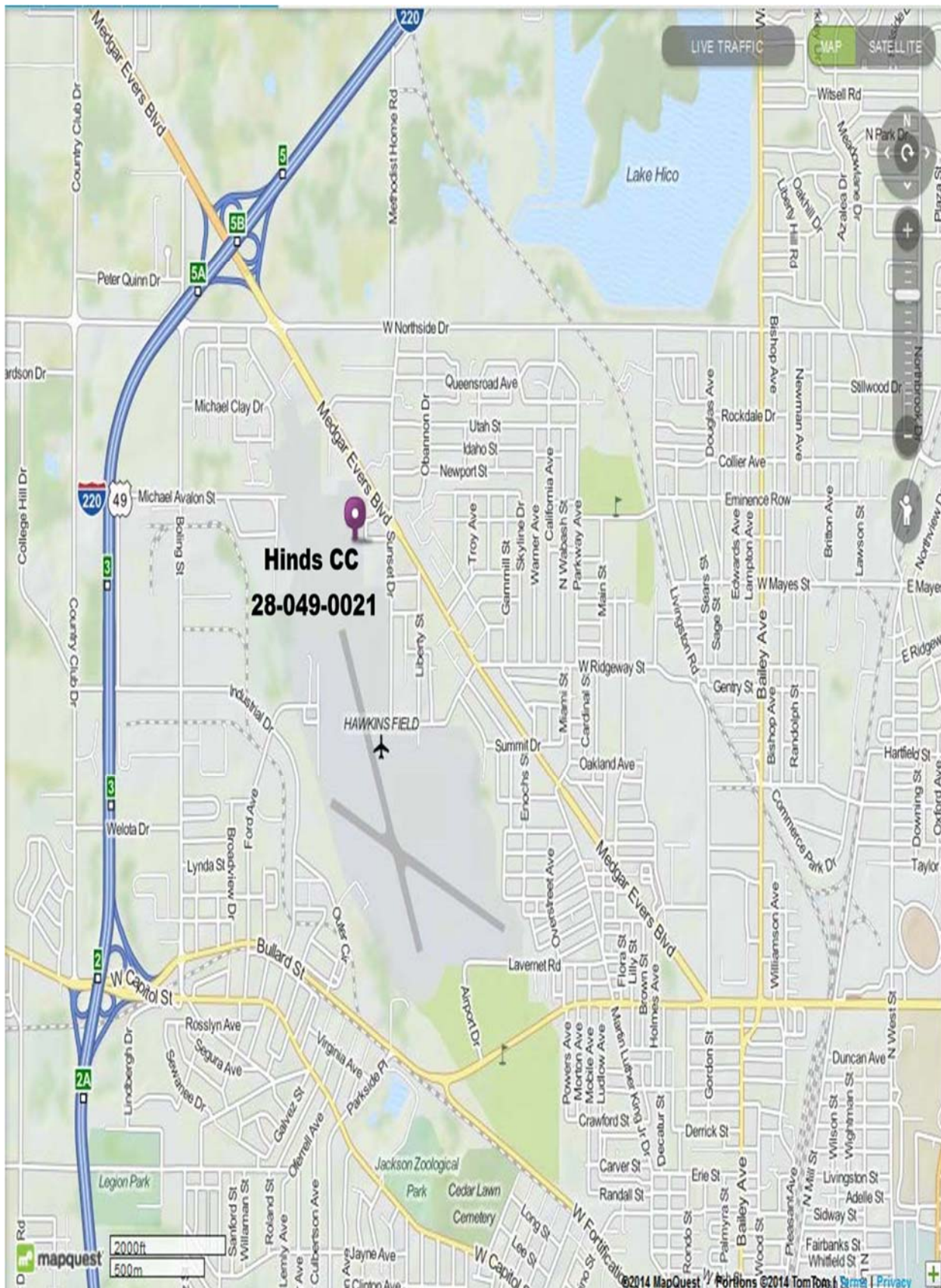
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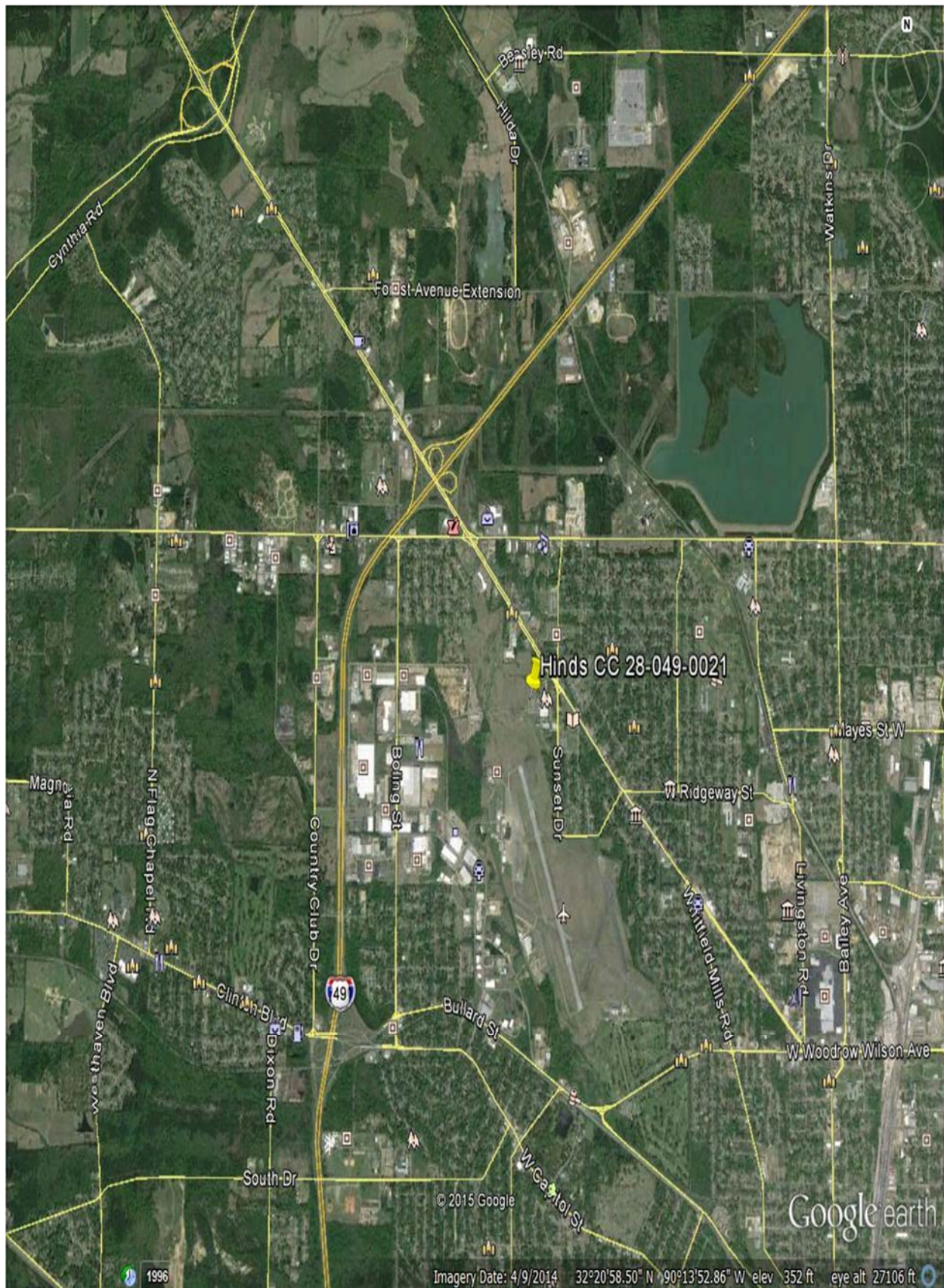


Hinds CC-West (2023)



Hinds CC-28-049-0021 (2023)





GULFPORT



Gulfport-North (2023)



Gulfport-South (2023)



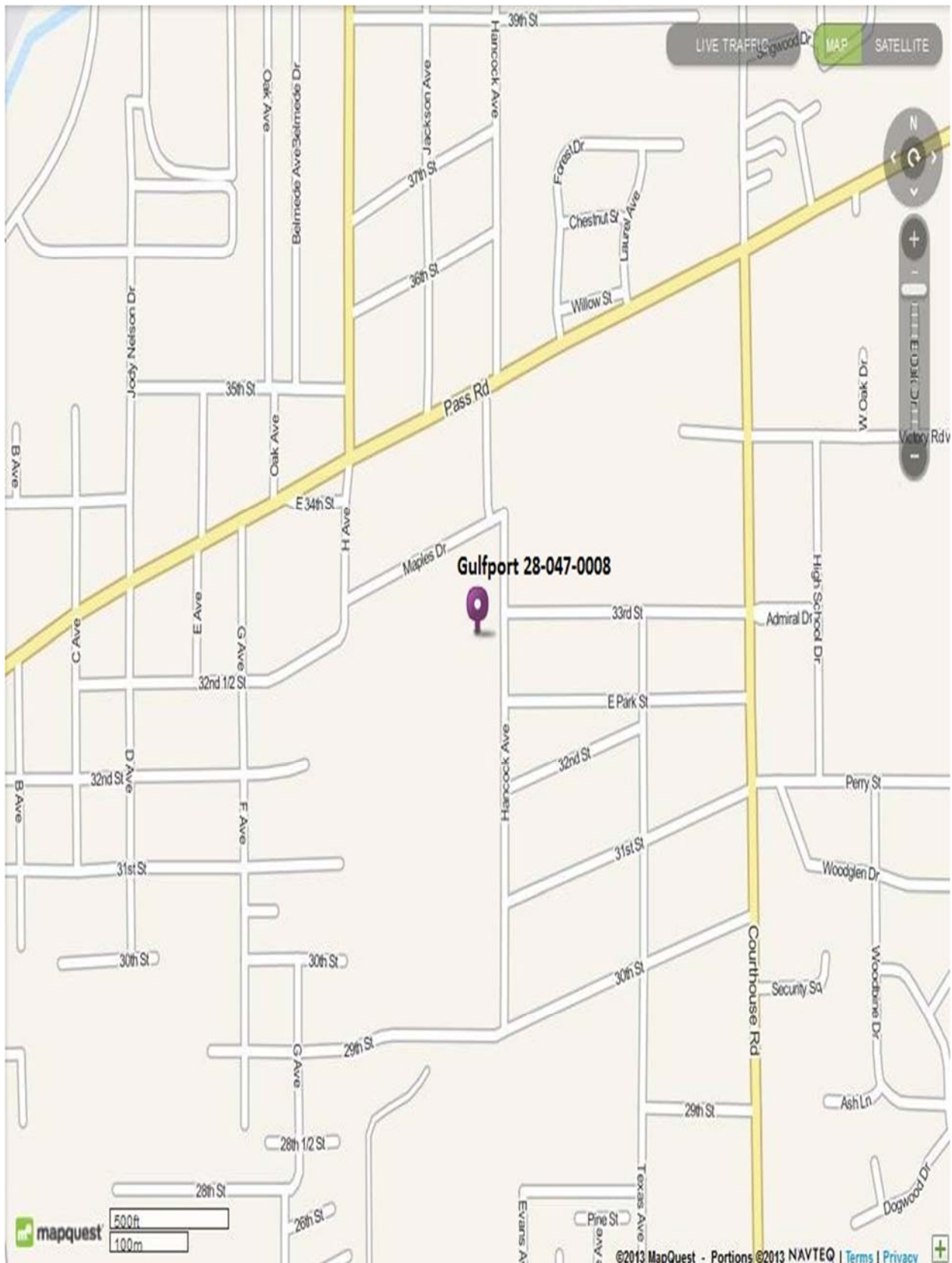
Gulfport-East (2023)



Gulfport-West (2023)



Gulfport-28-047-0008 (2023)





WAVELAND



Waveland-North (2023)



Waveland-South (2023)



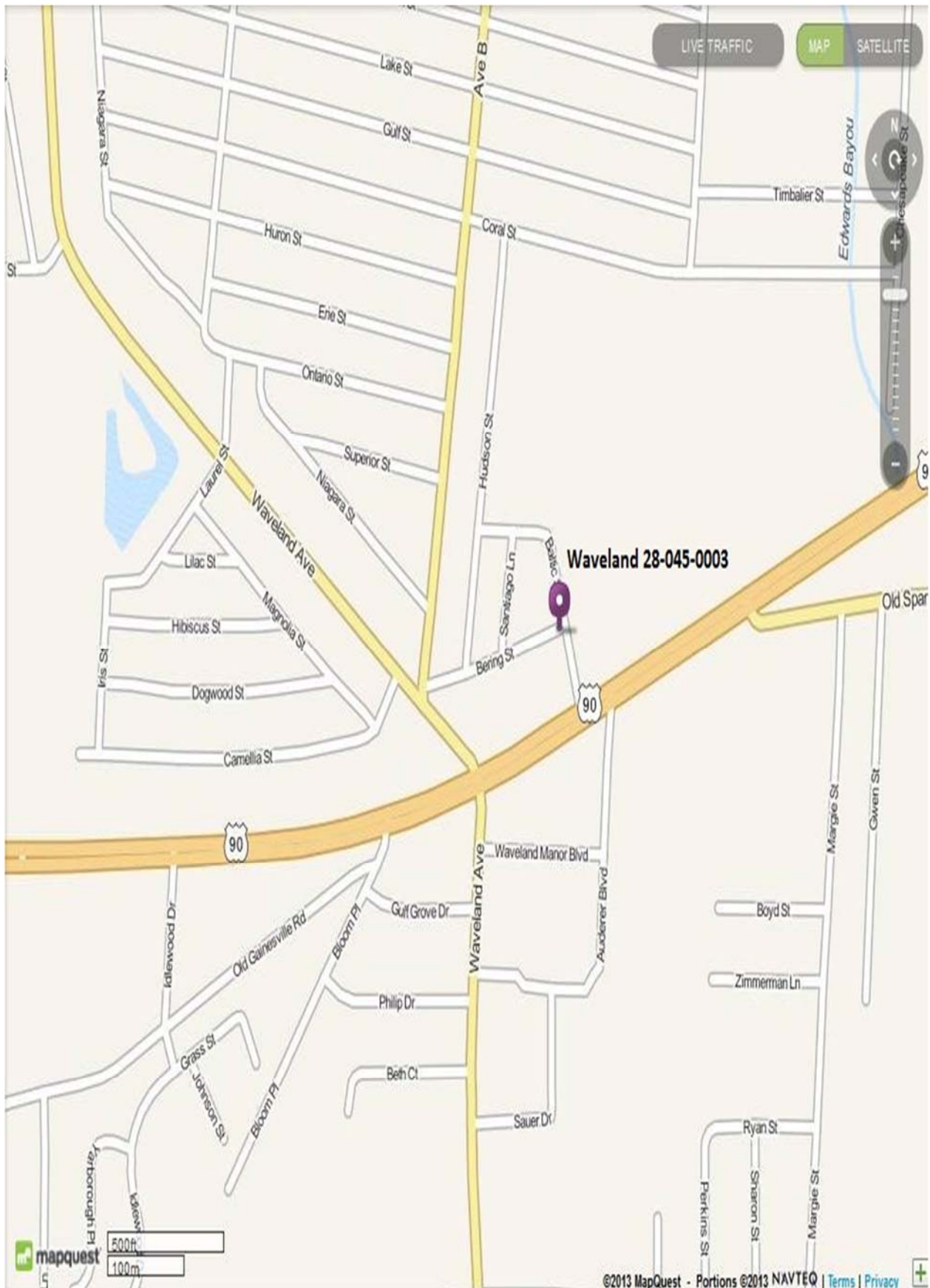
Waveland-East (2023)

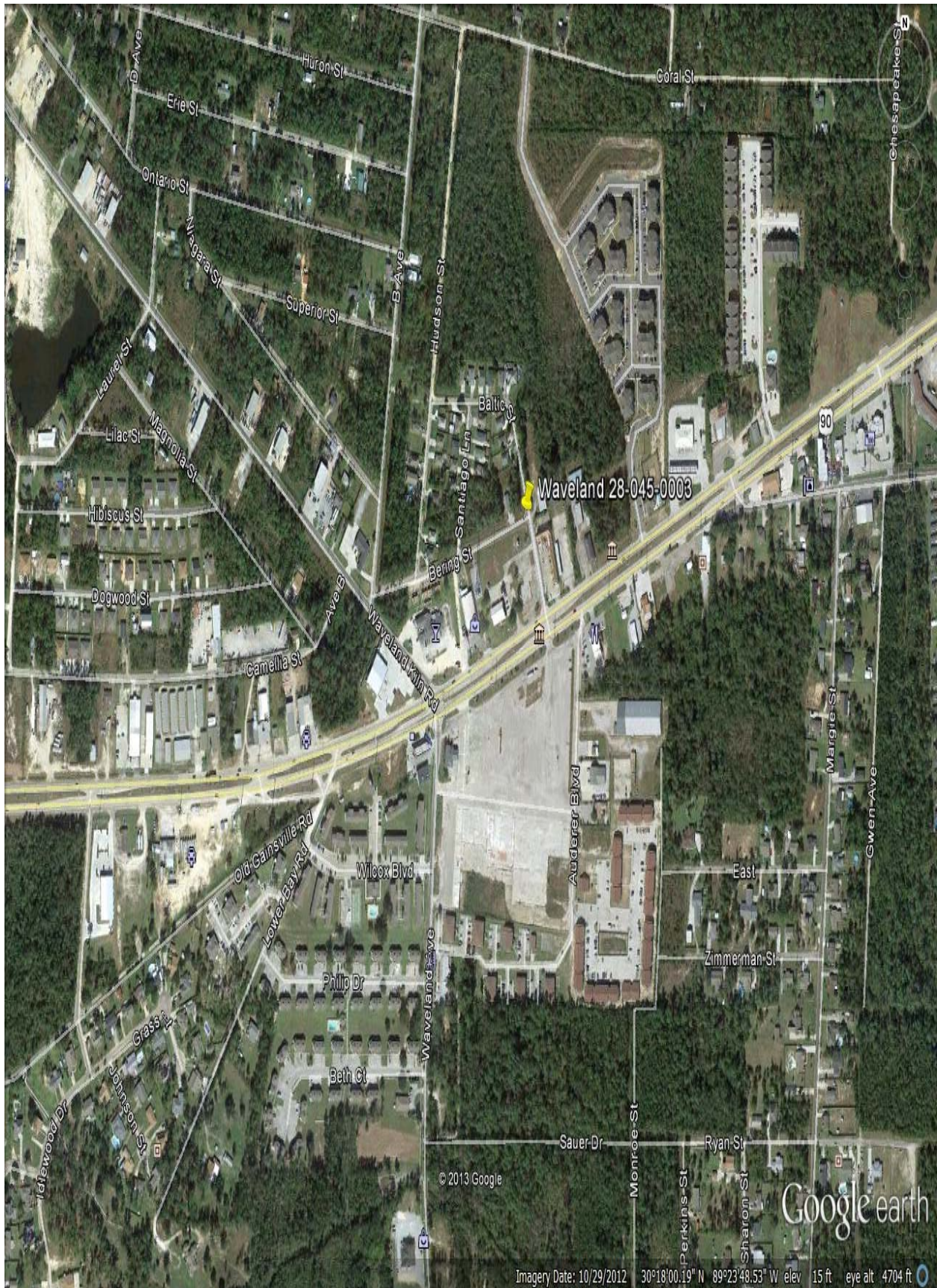


Waveland-West (2023)



Waveland-28-045-0003 (2023)





PASCAGOULA



Pascagoula-North (2023)



Pascagoula-South (2023)



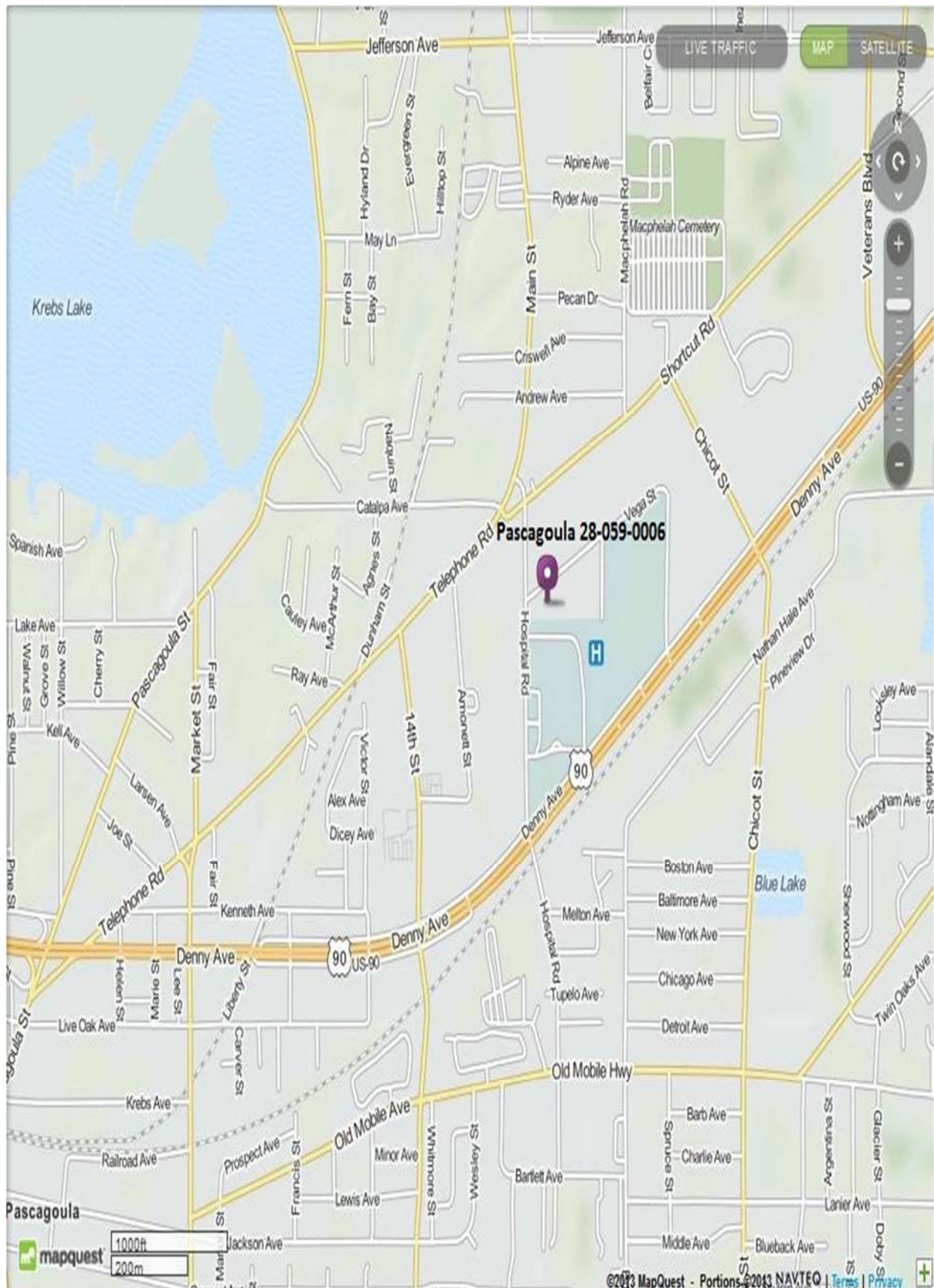
Pascagoula-East (2023)



Pascagoula-West (2023)



Pascagoula-28-059-0006 (2023)





HATTIESBURG



Hattiesburg-North (2023)



Hattiesburg-South (2023)



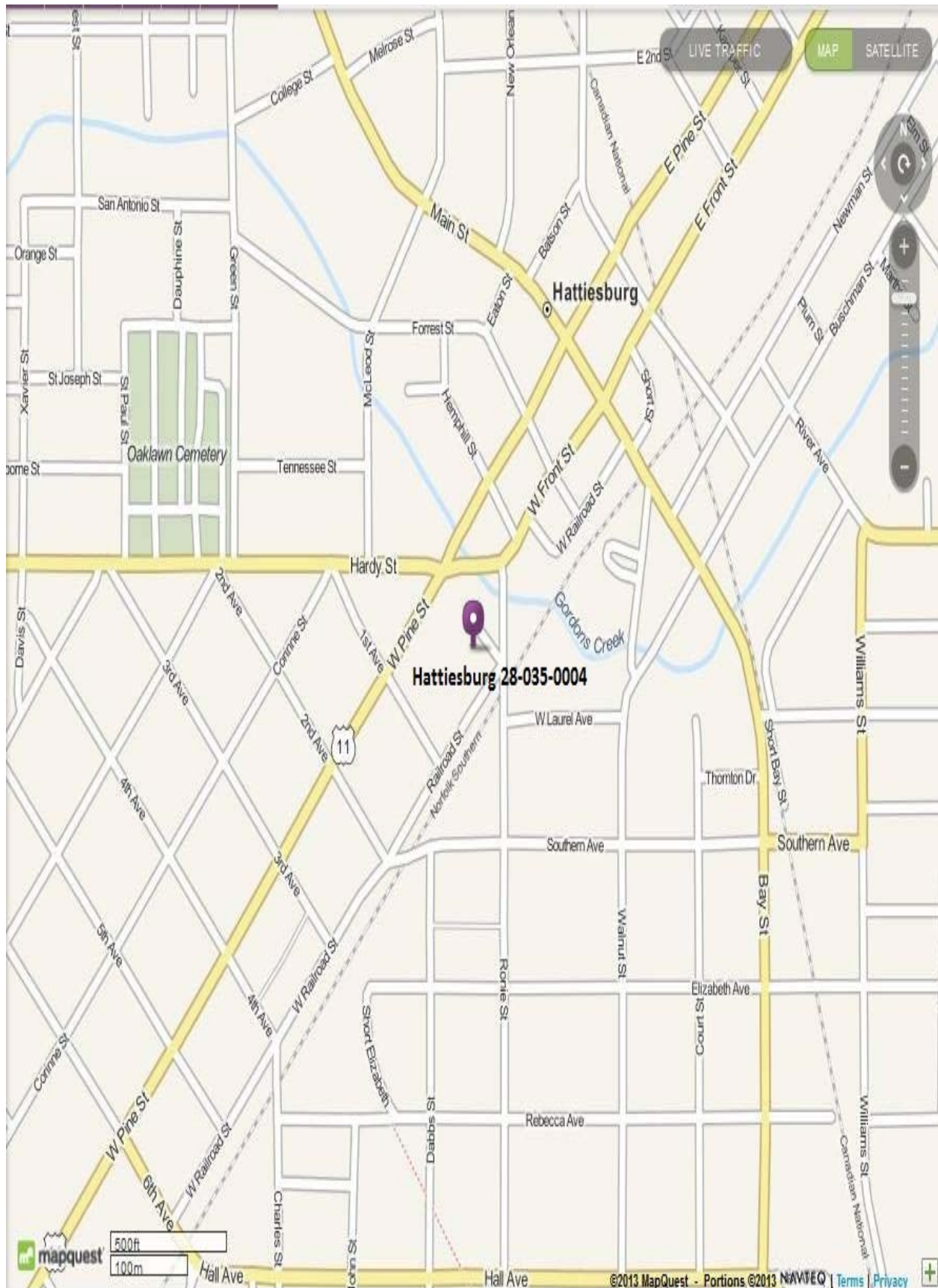
Hattiesburg-East (2023)

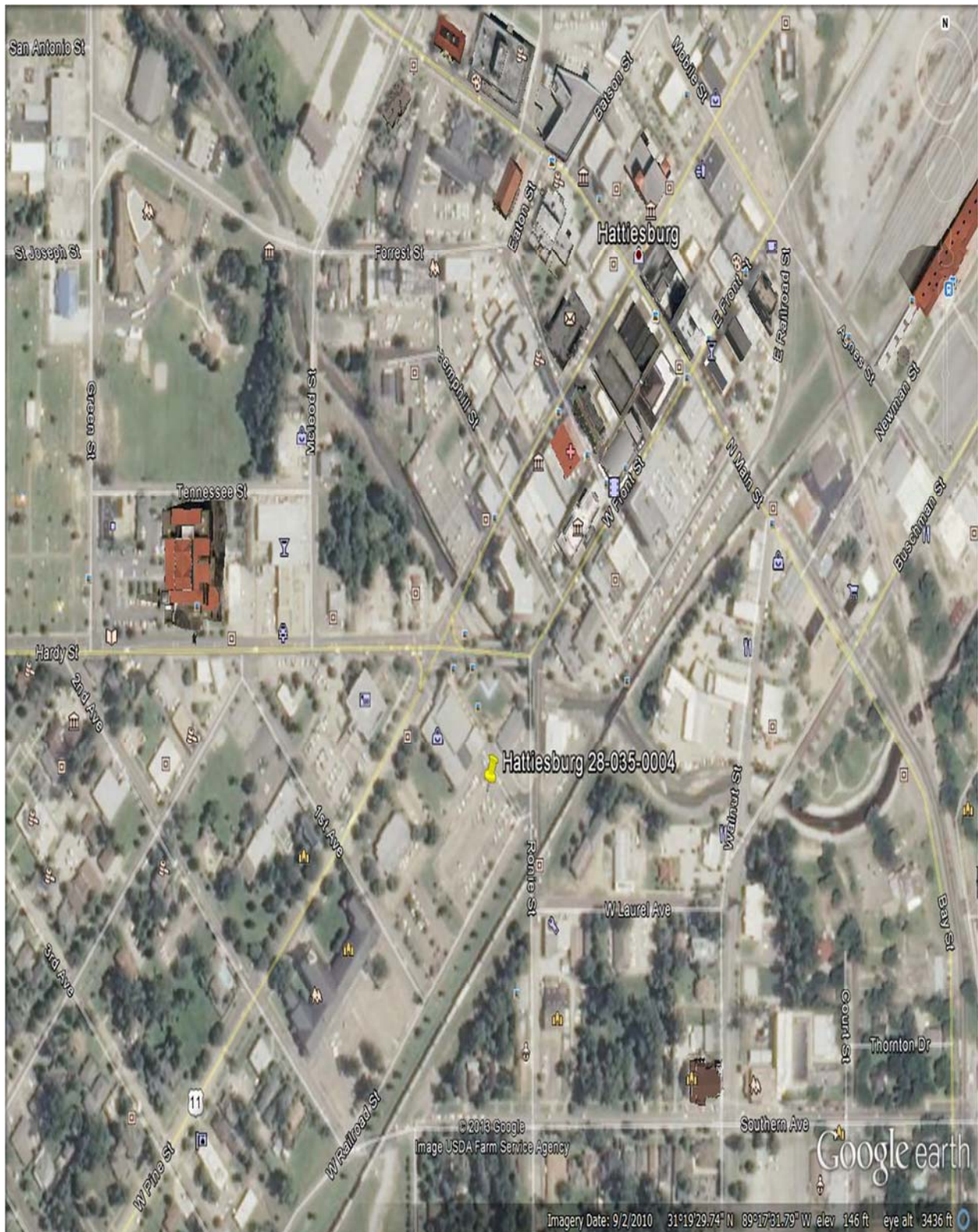


Hattiesburg-West (2023)



Hattiesburg-28-035-0004 (2023)





10.0 US Census Information

Annual Estimates of the Resident Population for Metropolitan Statistical Areas in the United States and Puerto Rico:			
Geographic Area	April 1, 2020 Estimates Base	Population Estimate (as of July 1)	
		2020	2021
United States	331,449,281	331,501,080	331,893,745
Gulfport-Biloxi, MS Metro Area	416,259	416,312	418,082
Hattiesburg, MS Metro Area	172,231	172,287	173,078
Jackson, MS Metro Area	591,978	590,626	587,202
Memphis, TN-MS-AR Metro Area	1,337,779	1,337,311	1,336,103
<p>Note: The estimates are developed from a base that incorporates the 2020 Census, Vintage 2020 estimates, and (for the U.S. only) 2020 Demographic Analysis estimates. For population estimates methodology statements, see http://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html. The estimates feature geographic boundaries from the Vintage 2020 estimates series; the geographic boundaries for these 2021 population estimates are as of January 1, 2020. The Office of Management and Budget's statistical area delineations for metropolitan, micropolitan, and combined statistical areas, as well as metropolitan divisions, are those issued by that agency in March 2020.</p>			
<p>Suggested Citation: Annual Estimates of the Resident Population for Metropolitan Statistical Areas in the United States and Puerto Rico: April 1, 2020 to July 1, 2021 (CBSA-MET-EST2021-POP) Source: U.S. Census Bureau, Population Division Release Date: March 2022</p>			

11.0 Regional Monitoring Agreement



LEE HARRIS
MAYOR

SHELBY COUNTY HEALTH DEPARTMENT



Public Health
Prevent. Promote. Protect.
Shelby County Health Department
MICHELLE A. TAYLOR, MD DRPH, MPA
HEALTH DIRECTOR & OFFICER

May 5, 2023

Ms. Michelle Walker Owenby, Air Director
Tennessee Department of Environment and Conservation Air Pollution Control Division
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Ave., 15th Floor
Nashville, TN 37243-1531

Ms. Melissa Fortenberry, Air Division Chief
Mississippi Department of Environmental Quality
Office of Pollution Control
Air Division
P.O. Box 2261
Jackson, MS 39201

Mr. David Witherow, P.E., Associate Director
Office of Air Quality
Arkansas Department of Energy and Environment
5301 Northshore Dr.
North Little Rock, AR 72118-5317

Dear All,

In accordance with the provisions of the Memorandum of Agreement (MOA) signed in May and June of 2008 between the Shelby County Health Department (SCHD), Mississippi Department of Environmental Quality (MDEQ) and the Arkansas Department of Energy and Environment - Division of Environmental Quality (DEQ), this letter serves as a notification that each respective agency in the MOA have been contacted by the SCHD and no changes have been made in the current monitoring network. With this MOA, all agencies are meeting EPA monitoring requirements.

If changes to the network will or will not be made in the future, please notify the respective agencies of your intent.

If you have any questions, please call me at (901) 222-9193.

Sincerely,

Kasia Smith-Alexander
Bureau Director, Environmental Health Services
Shelby County Health Department

Mission

To promote, protect and improve the health of ALL in Shelby County.

814 Jefferson Avenue ♦ Memphis, TN 38105 ♦ 901 222-9000 ♦ www.shelbytnhealth.com

**MEMORANDUM OF AGREEMENT
ON AIR QUALITY MONITORING FOR CRITERIA
POLLUTANTS FOR
THE MEMPHIS, TN- MS- AR
METROPOLITAN STATISTICAL AREA (MSA)**

Participating Agencies:

Shelby County Health Department (SCHD)
Air Pollution Control Program

Mississippi Department of Environmental Quality (MDEQ)
Office of Pollution Control, Air Division

Arkansas Department of Energy and Environment
Division of Environmental Quality (DEQ)

PURPOSE / OBJECTIVE / GOALS

The purpose of this Memorandum of Agreement (MOA) is to inform the entities of the Memphis, Tennessee-Mississippi-Arkansas Metropolitan Statistical Area of monitoring network changes. The MOA between SCHD, MDEQ, and DEQ is to collectively meet United States Environmental Protection Agency (EPA) minimum monitoring requirements for particles of an aerodynamic diameter of 10 micrometers and less (PM_{2.5}), and ozone; as well as other criteria pollutants air quality monitoring deemed necessary to meet the needs of the MSA as determined reasonable by all parties. This MOA will formalize and reaffirm the collective agreement in order to provide adequate criteria pollutant monitoring for the Memphis, TN-MS-AR MSA as required by 40 CFR 58 Appendix D, Section 2, (e).

PM_{2.5} MSA monitoring network include:

<u>County</u>	<u>Federal Referenced Method PM_{2.5}</u>	<u>Federal Equivalent Method PM_{2.5}</u>	<u>Continuous PM_{2.5}</u>	<u>Speciation PM_{2.5}</u>	<u>Collocated PM_{2.5}</u>
Shelby County, TN SCHD	4 (includes 2 at Alabama, 1 at NCore, and 1 at the Near Road station)	1		1	2
Crittenden County, AR DEQ	1		1		
DeSoto County, MS MDEQ		1			

Criteria Air Pollutant MSA monitoring network include:

<u>County</u>	<u>PM₁₀</u>	<u>PM_{10-2.5}</u>	<u>O₃</u>	<u>NO_x/NO_y/NO/NO₂</u>	<u>CO</u>	<u>SO₂</u>
Shelby County, TN SCHD	2 (TEOM at Alabama Ave. and T640x at NCore)	1	3	3 (includes 1 NO _x /NO ₂ at the Near Road Station, 1 NO/NO _y at NCore/PAMS, 1 true NO ₂ at NCore/PAMS)	2 (includes 1 trace at NCore and 1 at the Near Road Station)	1 (trace at NCore)
Crittenden County, AR DEQ			1	1		
DeSoto County, MS MDEQ			1			

RESPONSIBILITIES / ACTIONS

Each of the parties to this Agreement is responsible for ensuring that its obligations under the MOA are met. As conditions warrant, the affected agencies may conduct telephone conference calls, meetings, or other communications to discuss monitoring activities for the MSA. Each affected agency shall inform the other affected agencies via telephone or email of any monitoring changes occurring within its jurisdiction of the MSA at its earliest convenience, after learning of the need for the change or making the changes. Such unforeseen changes may include evictions from monitoring sites, destruction of monitoring sites due to natural disasters, or any occurrences that result in an extended (greater than one quarter) or permanent change in the monitoring network.

LIMITATIONS

- All commitments made in this MOA are subject to the availability of appropriated funds and each agency's budget priorities. Nothing in this MOA obligates SCHD, MDEQ, or DEQ to expend appropriations or to enter into any contract, assistance agreement, interagency agreement or other financial obligation.
- This MOA is neither a fiscal nor a funds obligation document. Any endeavor involving reimbursement or contribution of funds between parties to this agreement will be handled in accordance with applicable laws, regulations, and procedures, and will be subject to separate agreements that will be affected in writing by representatives of the parties.
- This MOA does not create any right or benefit enforceable by law or equity against SCHD, MDEQ, or DEQ, their officers or employees, or any other person. This MOA does not apply to any entity outside SCHD, MDEQ, or DEQ.
- No proprietary information or intellectual property is anticipated to arise out of this MOA.

TERMINATION

This Memorandum of Agreement may be revised upon the mutual consent of SCHD, MDEQ and DEQ. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.

12.0 Equipment List

Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
OZONE						
89589	OZONE ANALYZER	API	400E	159	Decommissioned 5/9/2023	6/1/2003
90741	OZONE ANALYZER	API	400E	1099	Fair	9/1/2006
90743	OZONE ANALYZER	API	400E	1101	Decommissioned 5/9/2023	9/1/2006
91211	OZONE ANALYZER	API	400E	1563	Decommissioned 5/9/2023	12/31/2007
91212	OZONE ANALYZER	API	400E	1098	Fair	9/1/2006
92174	OZONE ANALYZER	API	T400	131	Fair	6/14/2011
92175	OZONE ANALYZER	API	T400	132	Decommissioned 5/9/2023	6/14/2011
93180	OZONE ANALYZER	API	T400	1858	Good	6/17/2015
93181	OZONE ANALYZER	API	T400	1857	Good	6/17/2015
93182	OZONE ANALYZER	API	T400	1856	Fair	6/17/2015
93493	OZONE ANALYZER	API	T400	3304	Good	6/16/2017
93494	OZONE ANALYZER	API	T400	3305	Good	6/16/2017
93495	OZONE ANALYZER	API	T400	3306	Good	6/16/2017
93846	OZONE ANALYZER	API	T400	4206	Good	8/20/2018
93847	OZONE ANALYZER	API	T400	4207	Good	8/20/2018
94473	OZONE ANALYZER	API	T400	6496	Good	6/24/2021
94581	OZONE ANALYZER	API	T400	6771	Good	3/16/2022
94580	OZONE ANALYZER	API	T400	6772	Good	3/16/2022
94581	OZONE ANALYZER	API	T400	6771	Good	3/16/2022
94799	OZONE ANALYZER	API	T400	7088	Good	2/22/2023
94802	OZONE ANALYZER	API	T400	7089	Good	2/22/2023

SO2						
90923	SO2 ANALYZER	API	100E	68	Decommissioned 5/9/2023	6/1/2007
92019	SO2 ANALYZER	API	100EU	128	Decommissioned 5/9/2023	6/15/2010
93620	SO2 ANALYZER	API	T100U	279	Good	7/12/2017
93621	SO2 ANALYZER	API	T100U	280	Good	7/12/2017
94472	SO2 ANALYZER	API	T100U	435	Good	1/2023
NOy/NO2/NOx/NO						
92990	NOx ANALYZER	API	T200	1655	Fair	10/31/2014
94800	NOx ANALYZER	API	T200	8075	Good	2/2023
93194	NOy ANALYZER	API	T200U	235	Fair	10/21/2015
94790	NOy ANALYZER	API	T200U	489	Good	2/2023
CO						
93615	CO ANALYZER	API	T300U	379	Fair	6/22/2017
94789	CO ANALYZER	API	T300U	618	Good	1/2023
PARTICULATE SAMPLERS						
91054	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B220020708	Fair	9/14/2007
91055	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B220030708	Fair	9/14/2007
91056	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B220040708	Fair	9/14/2007
91057	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B220050708	Fair	9/14/2007
91142	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B22026	Fair	11/14/2007
91143	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B2202679	Fair	11/14/2007
91144	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B220270709	Fair	11/14/2007
91794	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B225390905	Good	6/12/2009
92143	SEQUENTIAL AIR SAMPLER	Thermo	2025	2025B227831104	Good	4/15/2011
92144	SEQUENTIAL AIR SAMPLER	R&P	2025	2025B227481104	Good	4/15/2011
93390	CONTINUOUS PARTICULATE SAMPLER	API	T640	105	Good	1/20/2017

DATA LOGGERS						
91050	DATA LOGGER	ESC	8832	A2059	Fair	9/14/2007
91051	DATA LOGGER	ESC	8832	A2058	Fair	9/14/2007
91134	DATA LOGGER	ESC	8832	A2020	Fair	11/14/2007
91135	DATA LOGGER	ESC	8832	A2021	Decommissioned 5/9/2023	11/14/2007
91136	DATA LOGGER	ESC	8832	A2040	Fair	11/14/2007
91137	DATA LOGGER	ESC	8832	A2041	Fair	11/14/2007
91788	DATA LOGGER	ESC	8832	A3222K	Fair	6/12/2009
91789	DATA LOGGER	ESC	8832	A3223K	Good	6/12/2009
92942	DATA LOGGER	ESC	8832	A4838K	Fair	7/1/2014
92943	DATA LOGGER	ESC	8832	A4837K	Good	7/1/2014
92944	DATA LOGGER	ESC	8832	A4836K	Good	7/1/2014
92945	DATA LOGGER	ESC	8832	A4839K	Good	7/1/2014
92949	DATA LOGGER	ESC	8832	A4838K	Good	7/1/2014
94072	DATA LOGGER	Agilaire	8872	0923	Good	7-24-2019
94077	DATA LOGGER	Agilaire	8872	0924	Good	7-24-2019
94078	DATA LOGGER	Agilaire	8872	0925	Good	7-24-201
94234	DATA LOGGER	Agilaire	8872	1011	Good	4/30/2020
94233	DATA LOGGER	Agilaire	8872	1110	Good	4/30/2020
94234	DATA LOGGER	Agilaire	8872	1011	Good	4/30/2020
94235	DATA LOGGER	Agilaire	8872	1009	Good	4/30/2020
94783	DATA LOGGER	Agilaire	8872	1326	Good	12/2022
94784	DATA LOGGER	Agilaire	8872	1325	Good	12/2022
94785	DATA LOGGER	Agilaire	8872	1329	Good	12/2022
94786	DATA LOGGER	Agilaire	8872	1328	Good	12/2022
94787	DATA LOGGER	Agilaire	8872	1327	Good	12/2022

CALIBRATORS						
91872	Level 2 Bench	Thermo	49i	092000067	Good	
92084	CALIBRATOR	API	T700U	55	Fair	10/31/2017
92849	CALIBRATOR	API	T700U	167	Fair	3/1/2014
92850	CALIBRATOR	API	T700	814	Fair	3/1/2014
93385	CALIBRATOR	API	T703U	122	Good	12/27/2017
93386	CALIBRATOR	API	T703U	123	Good	12/27/2017
93387	CALIBRATOR	API	T703U	3010	Good	12/30/2016
93490	CALIBRATOR	API	T703U	180	Good	6/17/2017
93491	CALIBRATOR	API	T703U	181	Good	6/17/2017
93492	CALIBRATOR	API	T703U	182	Good	6/17/2017
93656	CALIBRATOR	API	T703U	190	Good	11/17/2017
93675	CALIBRATOR	API	T703U	194	Good	12/5/2017
93677	CALIBRATOR	API	T700	3732	Good	1/8/2018
93852	CALIBRATOR	API	T703U	230	Good	8/8/2018
93853	CALIBRATOR	API	T703U	231	Good	Aug-18
94470	CALIBRATOR	API	T703U	359	Good	7/12/2021
94471	CALIBRATOR	API	T703U	360	Good	7/12/2021
94474	CALIBRATOR	API	T700U	694	Good	7/12/2021
ZERO AIR UNITS						
N/A	ZERO AIR UNIT	API	701	1875	Fair	
83371	ZERO AIR UNIT	Sabio	2020	5930537	Decommissioned	5/1/1993
89694	ZERO AIR UNIT (Audit)	Sabio	2020	2440703	Fair	8/1/2003
91623	ZERO AIR UNIT	API	701-H	2839	Fair	12/12/2008
92435	ZERO AIR UNIT	Sabio	2020	04160912D	Decommissioned 5/9/2023	8/17/2012

92436	ZERO AIR UNIT	Sabio	2020	-	Decommissioned 5/9/2023	8/17/2012
92437	ZERO AIR UNIT	Sabio	2020	04170912D	Fair	8/17/2012
92486	ZERO AIR UNIT	Sabio	2020	04140912D	Fair	8/17/2012
92487	ZERO AIR UNIT	Sabio	2020	04130912D	Decommissioned 5/9/2023	8/17/2012
93388	ZERO AIR UNIT	API	701H	1653	Good	1/20/2017
93389	ZERO AIR UNIT	API	701H	1654	Good	1/20/2017
93496	ZERO AIR UNIT	API	701H	1684	Good	6/16/2017
93848	ZERO AIR UNIT	API	701H	1744	Good	8/1/2018
93849	ZERO AIR UNIT	API	701H	1745	Good	8/1/2018
93916	ZERO AIR UNIT	API	701	1611	Good	2/1/2019
93917	ZERO AIR UNIT	API	701	1610	Good	2/1/2019
93915	ZERO AIR UNIT	API	701	1609	Good	2/1/2019
94582	ZERO AIR UNIT	API	701H	978	Good	2/2023
94798	ZERO AIR UNIT	API	701H	1074	Good	2/2023
94801	ZERO AIR UNIT	API	701	2334	Good	2/2023
Meteorology Equipment						
Inventory Number	Item	Manufacturer	Type	Serial Number	Condition	Purchase Date
89576	Translator	MetOne	-	C1734	Fair	5/1/2003
89684	WEATHER STATION	-	-	C1735	Fair	5/1/2003
91632	WEATHER STATION	Auto Met	-	H10447	Decommissioned	1/15/2009
91633	WEATHER STATION	Metone	-	H10709	Decommissioned	1/15/2009
91634	WEATHER STATION	Metone	466A	H10448	Decommissioned	1/15/2009

Appendix A:

2023-2024 Siting Criteria and Residence Time Summary

AQS #	Site Name:	Parameter	Probe Tubing and Fittings	Probe Rain Shield Material	Height of Probe from ground to Inlet (meters)	Residence Time Seconds	Nearest Road/ Meters	Obstructions < 10 Meters	Tree Drip Line < 10 Meters	270 Degrees Unrestricted Airflow (yes/no)
28-011-0002	Cleveland	Ozone	Teflon	Stainless	4.5 m	3.97 s	Shumate Circle / 63.2 m	No	No	Yes
28-011-0002	Cleveland	PM	N/A	N/A	4.2 m	N/A	Shumate Circle / 62.2 m	No	No	Yes
28-033-0002	Hernando	Ozone	Teflon	Stainless	4.5 m	4.56 s	Vaiden Dr / 72.5 m	No	No	Yes
28-033-0002	Hernando	PM	N/A	N/A	4.2 m	N/A	Vaiden Dr / 71.5 m	No	No	Yes
28-045-0003	Waveland	Ozone	Teflon	Stainless	5.18 m	4.42 s	Bering St / 16.92 m	No	No	Yes
28-045-0003	Waveland	PM	N/A	N/A	4.83 m	N/A	Bering St / 14.5 m	No	No	Yes
28-047-0008	Gulfport YC	Ozone	Teflon	Stainless	4.08 m	4.08 s	Hancock AVE / 29.72 m	No	No	Yes
28-047-0008	Gulfport YC	PM	N/A	N/A	3.96 m	N/A	Hancock AVE / 29.72 m	No	No	Yes
28-049-0021	Hinds CC	Ozone	Teflon	Stainless	4.5 m	4.63 s	Medgar Evers Dr / > 300 m	No	No	Yes
28-049-0021	Hinds CC	PM	N/A	N/A	4.0 m	N/A	Medgar Evers Dr / > 300 m	No	No	Yes
28-075-0003	Meridian	Ozone	Teflon	Stainless	4.5 m	3.90 s	53rd Ave / 22 m	No	No	Yes
28-035-0004	Hattiesburg	PM	N/A	N/A	3.5 m	N/A	Ronie St. / 13.72 m	No	No	Yes
28-081-0005	Tupelo	Ozone	Teflon	Stainless	4.35 m	3.78 s	W. Jackson St / 4.63 m	No	No	Yes
28-049-0020	NCore	Ozone	Teflon	Stainless	4.5 m	4.91 s	N. West St./ 42 m	No	No	Yes
28-049-0020	NCore	SO2	Teflon	Stainless	4.5 m	6.29 s	N. West St./ 42 m	No	No	Yes
28-049-0020	NCore	CO	Teflon	Stainless	4.5 m	2.46 s	N. West St./ 42 m	No	No	Yes
28-049-0020	NCore	PM	N/A	N/A	4.0 m	N/A	N. West St./ 42 m	No	No	Yes
28-059-0006	Pascagoula	Ozone	Teflon	Stainless	4.57 m	3.73 s	LT Eugene J Majure Dr./ 12.95 m	No	No	Yes
28-059-0006	Pascagoula	SO2	Teflon	Stainless	5.30 m	3.97 s	LT Eugene J Majure Dr./ 12.95 m	No	No	Yes
28-059-0006	Pascagoula	NOx	Teflon	Stainless	4.57 m	7.30 s	LT Eugene J Majure Dr./ 12.95 m	No	No	Yes
28-059-0006	Pascagoula	PM	N/A	N/A	4.42 m	N/A	LT Eugene J Majure Dr./ 12.95 m	No	No	Yes