



MISSISSIPPI DEPARTMENT OF
ENVIRONMENTAL QUALITY

Monitoring Network Plan - 2015



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Monitoring Network Plan - 2015:

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I. Background:

Federal Regulations (40 CFR 58.10) require that State and Local Agencies operating ambient air quality monitoring networks shall review their air quality monitoring networks 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 should be available for public comment. MDEQ's plan is available on the MDEQ website at <http://www.deq.state.ms.us>.

The annual network review specified in *40 CFR 58.10* contains the following elements that apply to each monitoring site:

- The 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 PM_{2.5} and Ozone NAAQS as described in part 58.30.
- The MSA, CBSA, CSA or other area represented by the monitor.
- The annual monitoring network plans and or periodic network assessments are subject to Regional approval according to part 58.14.

II. Overview:

In the State of Mississippi the Mississippi Department of Environmental Quality 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 EPA's AirNow data mapping web site, Air Quality Index 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 <http://www.deq.state.ms.us> under AQI. In addition, hourly ozone, PM continuous, NO₂, SO₂, and CO data is reported to the EPA Airnow site.

All site data is suitable for NAAQS comparisons per appendices A, C, D, and E. MDEQ's Quality Management Plan is current with an approval date of 4/23/09 while the Criteria Pollutants QAPP is dated 10/1/06.

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. The tables below and the discussion on the following pages summarize this information.

Mississippi MSA	Pop 2010 Census
Memphis	1,316,100
Jackson	539,057
Hattiesburg	142,842
Gulfport – Biloxi	248,820
Pascagoula	162,246

Mississippi CSA	Pop 2010 Census
Jackson-Yazoo	567,122
Gulfport-Biloxi-Pascagoula	411,066

III. 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 CFR parts 53 and 58 documents, census data and maps. All monitors operated by MDEQ are SLAMS with the exception of one NO_x analyzer and one SO₂ analyzer located in Jackson County at the Pascagoula site (28.059.0006). These monitors are a special purpose (SPM), operated for MDEQ purposes. The NO_x analyzer has been designated by EPA as a RA-40 site.

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

1. *Memphis MSA:*

- **Hernando** (DeSoto Co. 28.033.0002) – A FRM PM_{2.5} sampler is designated as a transport sampler and therefore is a required sampler. A collocated FRM PM_{2.5} sampler, a continuous PM_{2.5} sampler, and an ozone monitor are required and operated at this site. MDEQ has a monitoring agreement with Memphis, TN, and AR to meet Appendix D requirements section 2, e. A copy is attached and is on file at Region 4.

2. *Jackson MSA:*

- **Jackson NCore** (Hinds Co. 28.049.0020) – The NCore site contains a full complement of instruments, including meteorological. The parameters currently include Ozone, Sulfur Dioxide, Carbon Monoxide, Nitric Oxides as NO_y, FRM PM_{2.5} manual, Non-FEM PM_{2.5} continuous, PM_{10-2.5}, Speciated PM_{2.5}, wind speed, wind direction, ambient temperature and relative humidity. The NCore site is the location for MDEQ's urban PM₁₀ sampling, as well as urban lead sampling.
- **Jackson Metro** (Hinds Co. 28.049.0010) – A FRM PM_{2.5} sampler, a continuous PM_{2.5} sampler and an ozone monitor is required and operated in this MSA. EPA approval was granted to relocate this site to Hinds Community College located at latitude 32.346722 and longitude -90.225667. MDEQ plans to relocate this site this year, 2014, and will report under the new AQS number 28-049-0021.

- **PM₁₀ Sampling** – PM₁₀ sampling for the Jackson metro area is based on the sampling requirements for population in Appendix D. The PM₁₀ samplers, both regular and collocated FRMs, are located at the Jackson NCore site.

3. *Hattiesburg MSA:*

- **Hattiesburg** (Forrest Co. 28.035.0004) – A FRM PM_{2.5} sampler, a collocated FRM PM_{2.5} sampler and a continuous PM_{2.5} sampler is operated at this site.

4. *Gulfport-Biloxi MSA:*

- **Gulfport** (Harrison Co. 28.047.0008) – A FRM PM_{2.5} sampler, a continuous PM_{2.5} sampler and an ozone monitor is operated at this site.
- **Waveland** (Hancock Co. 28.045.0003) – A FRM PM_{2.5} sampler, an ozone monitor and a met tower is operated at this site.

5. *Pascagoula MSA:*

- **Pascagoula** (Jackson Co. 28.059.0006) – An ozone monitor, NO_x monitor, SO₂ monitor and a FRM PM_{2.5} sampler is operated at this site. The NO_x analyzer has been designated as a RA-40 site.

6. *Non-MSA Sites:*

- **Grenada** (Grenada Co. 28.043.0001) – A FRM PM_{2.5} sampler is operated at this site as a background monitor for PM_{2.5} as required by regulations.
- **Meridian** (Lauderdale Co. 28.075.0003) – An ozone analyzer is operated at this site.
- **Tupelo** (Lee Co. 28.081.0005) – An ozone analyzer is operated at this site.
- **Cleveland** (Bolivar Co. 28.011.0001) - An ozone analyzer is operated at this site.

IV. NCore Tables:

NCore Site Table

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	32.329111 (32.19.45)	-90.182722 (90.10.58)	232 E Woodrow Wilson	93	7/01/2013	Urban and city center

NCore Parameter Table

Parameter	Monitoring Objective	Measurement Scale	Designation	Type	Method	Schedule	Comment
CO	Pop. Exp.	Neighborhood	NCore	Continuous Analyzer	Non-Dispersive IR	Jan-Dec	
NO_y	Pop. Exp.	Neighborhood /Urban	NCore	Continuous Analyzer	Chemiluminescence	Jan-Dec	
O₃	Pop. Exp.	Neighborhood /Urban	NCore	Continuous Analyzer	UV Photometry	Jan-Dec	
SO₂	Pop. Exp.	Neighborhood	NCore	Continuous Analyzer	UV fluorescence	Jan-Dec	
FRM PM 2.5	Pop. Exp	Neighborhood	NCore	Manual Reference Sampler(3 Day)	Gravimetric Analysis	Jan-Dec	
FEM PM 2.5	Pop. Exp	Neighborhood	NCore	Continuous Analyzer	Gravimetric	Jan-Dec	TEOM
PM 2.5 Speciation	Pop. Exp	Neighborhood	NCore	Manual Sampler (3 Day)	Multiple Methods	Jan-Dec	
PM coarse	Pop. Exp	Neighborhood	NCore	Manual Sampler (3 Day)	Difference by Gravimetric Analysis	Jan-Dec	
Meteorological	--	--	NCore	--	Wind speed, direction, ambient temperature, humidity	Jan-Dec	
Lead	Pop. Exp	Urban	NCore	Manual sampler (6 Day)	Manual Method via PM 10	Jan-Dec	Required for the metro area 500,000+
PM 10	Pop. Exp	Urban	SLAMS	Manual Reference Sampler(6 Day)	Gravimetric Analysis	Jan-Dec	Required for the metro area 500,000+, non NCore
Radiation	Pop. Exp	Urban	Rad Net	Continuous / manual		Jan-Dec	Non NCore

V. 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	Y	Manual (6 Day)	126	Jan-Dec	At NCore Site

PM_{2.5}

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	Y	Manual (3 Day) Continuous	118 SEQ 702 TEOM	Jan-Dec Jan-Dec
Hattiesburg	Forrest	Hattiesburg	28-035-0004	Pop. Exp.	Neighborhood	1	Y	Manual (3 Day) Continuous	118 SEQ 702 TEOM	Jan-Dec Jan-Dec
Grenada	Grenada	N/A	28-043-0001	Background	Neighborhood	1	N	Manual (3 Day)	118 SEQ	Jan-Dec
Waveland	Hancock	Gulf/Biloxi	28-045-0003	Pop. Exp.	Neighborhood	0	N	Manual (3 Day)	118 SEQ	Jan-Dec
Gulfport	Harrison	Gulf/Biloxi	28-047-0008	Pop. Exp.	Neighborhood	1	N	Manual (3 Day) Continuous	118 SEQ 702 TEOM	Jan-Dec Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	N	Manual (3 Day)	118 SEQ	Jan-Dec
Jackson NCore	Hinds	Jackson	28-049-0020	Pop. Exp.	Neighborhood	1	N	Manual (3 Day) Continuous	118 SEQ 702 TEOM	Jan-Dec Jan-Dec
Jackson	Hinds	Jackson	28-049-0010	Pop. Exp.	Neighborhood	1	N	Manual (3 Day) Continuous	118 SEQ 702 TEOM	Jan-Dec Jan-Dec

Comments: All manual samplers are FRM and classified as SLAMS. The continuous samplers are non FEM.

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

NO_x/NO_y

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	599	Jan-Dec
Pascagoula	Jackson	Pascagoula	28-059-0006	Pop. Exp.	Neighborhood	0	Continuous	099	Jan-Dec

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	28-011-0001	Pop. Exp.	Urban	0	Continuous	UV Absorp	Mar - Oct
Gulfport	Harrison	Gulf/Biloxi	28-047-0008	Pop. Exp.	Urban	1	Continuous	UV Absorp	Mar - Oct
Waveland	Hancock	Gulf/Biloxi	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	28-049-0010	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	Pascagoula	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 SLAMS

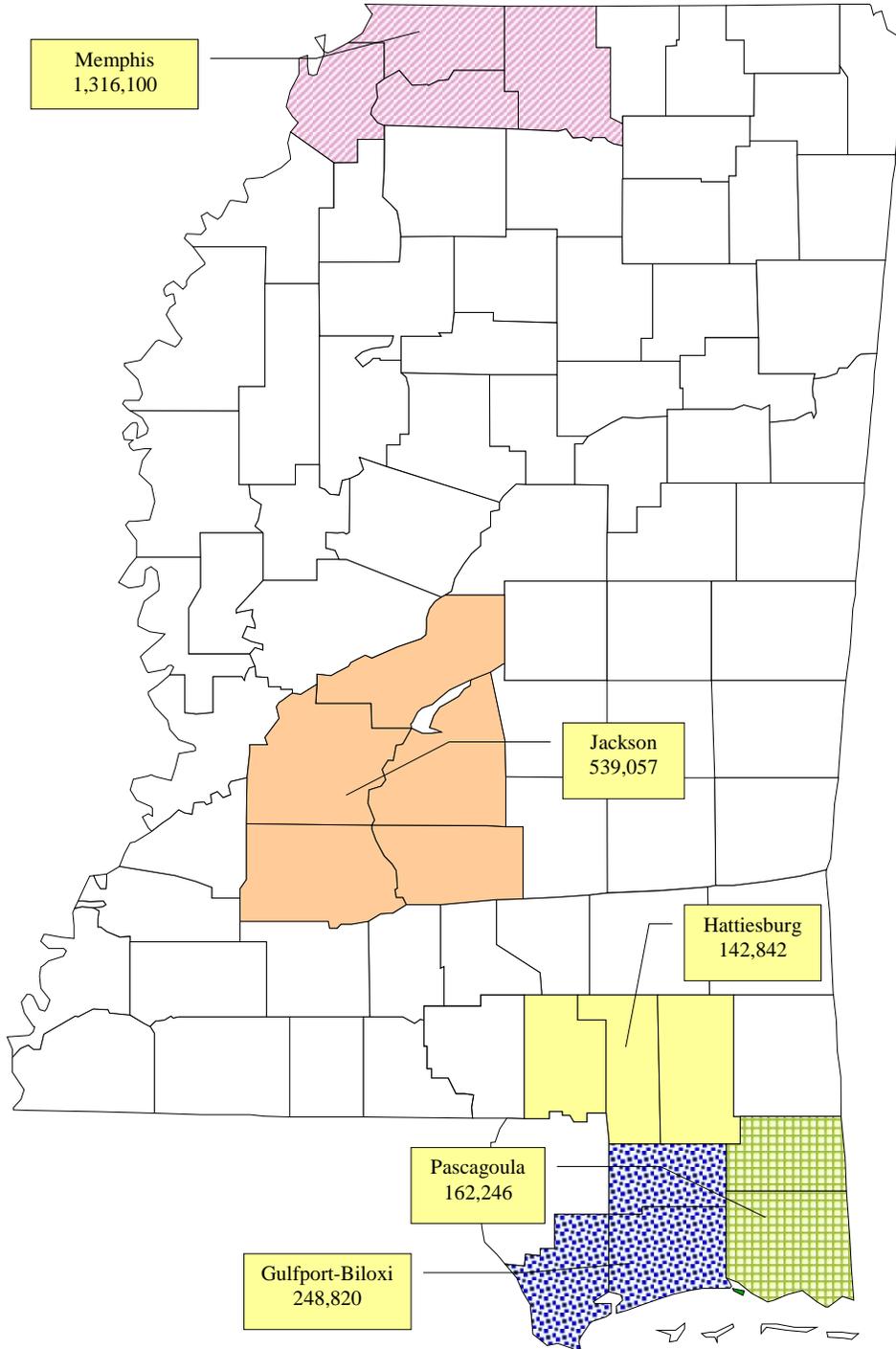
LEAD

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	Y	Manual (6 Day)	809	Jan-Dec	At NCore Site

Site Location Coordinates

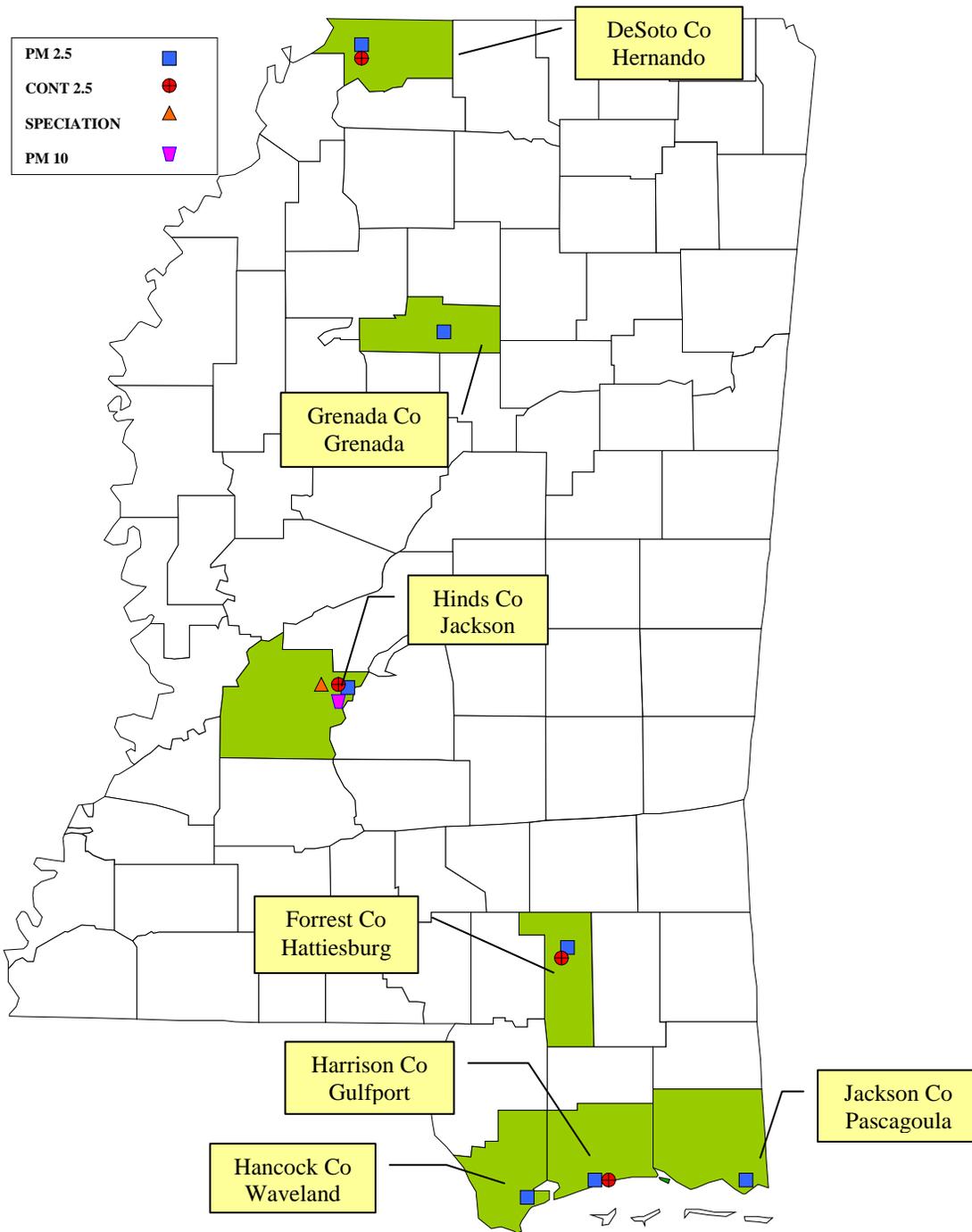
#	SITE ID	LAT	LONG	NAME	COUNTY	ADDRESS
1	28-011-0001	33 44 45	90 43 23	CLEVELAND	BOLIVAR	213 North Bayou Ave.
2	28-033-0002	34 49 14	89 59 16	HERNANDO	DESOTO	5 East South St.
3	28-035-0004	31 19 26	89 17 32	HATTIESBURG	FORREST	101 Ferguson St.
4	28-043-0001	33 50 4	89 47 34	GRENADA	GRENADA	Hwy 332 at Grenada Airport
5	28-045-0003	30 18 4	89 23 45	WAVELAND	HANCOCK	400 Baltic St.
6	28-047-0008	30 23 24	89 2 59	GULFPORT YC	HARRISON	47 Maples Dr.
7	28-049-0010	32 23 8	90 8 28	JACKSON FS19	HINDS	5810 Ridgewood Rd.
8	28-049-0020	32 19 45	90 10 58	JACKSON NCore	HINDS	232 E Woodrow Wilson
9	28-059-0006	30 22 41	88 32 2	PASCAGOULA	JACKSON	Hospital Rd. and Vega St.
10	28-075-0003	32 21 52	88 43 53	MERIDIAN	LAUDERDALE	Hwy 19 and 53rd Ave.
11	28-081-0005	34 15 54	88 45 58	TUPELO	LEE	West Jackson at Tupelo Airport

MSA MAP:

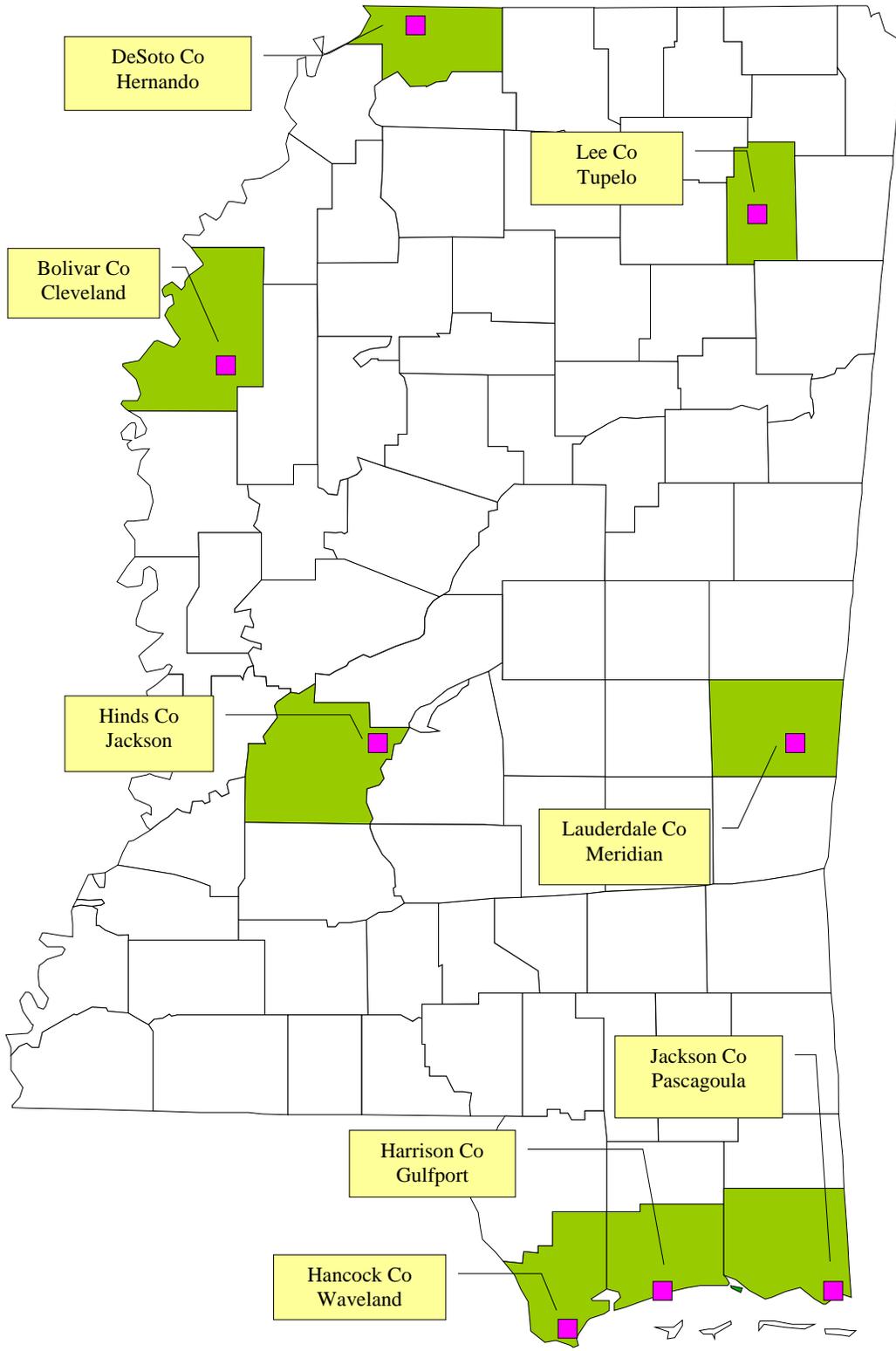


MISSISSIPPI MSA AREAS

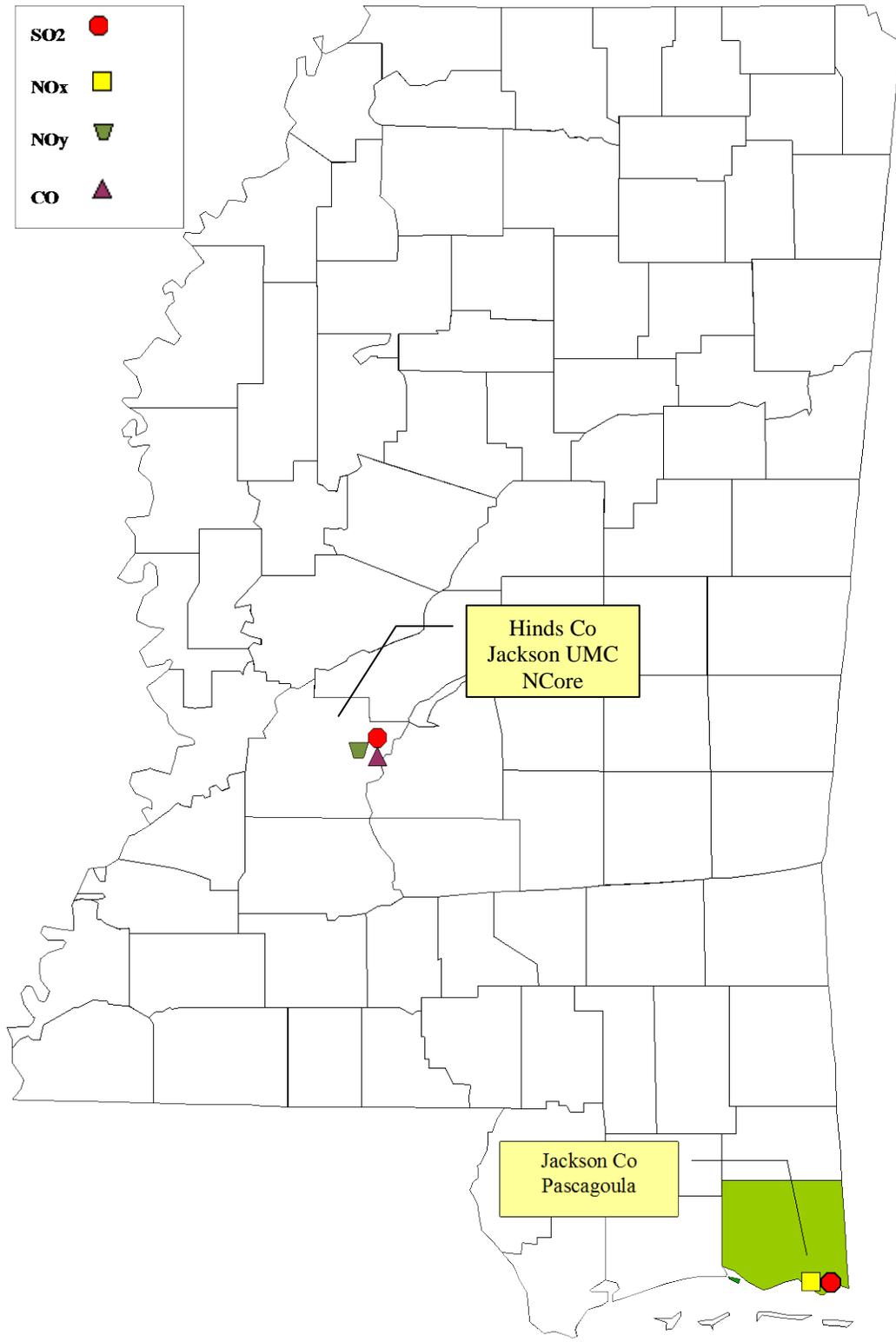
- MEMPHIS – DeSoto, Tunica, Marshall, Tate
- JACKSON – Hinds, Rankin, Copiah, Simpson, Madison
- HATTIESBURG – Lamar, Forrest, Perry
- GULFPORT-BILOXI – Hancock, Harrison, Stone
- PASCAGOULA – Jackson, George



MDEQ PARTICULATE SITES – 2014



MDEQ OZONE SITES - 2014



MDEQ SO2 / NOx/ NOy/ CO SITES - 2014

Appendix I
Site Maps and Photos



Cleveland - N



Cleveland - E



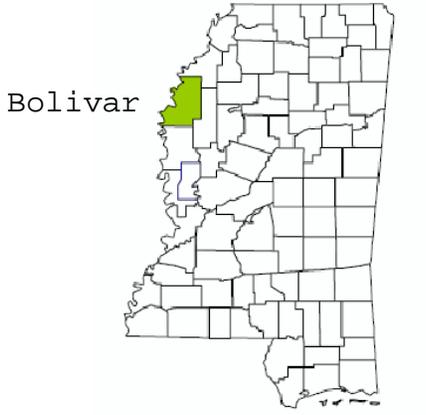
Cleveland - S



Cleveland - W



Cleveland 28-011-0001

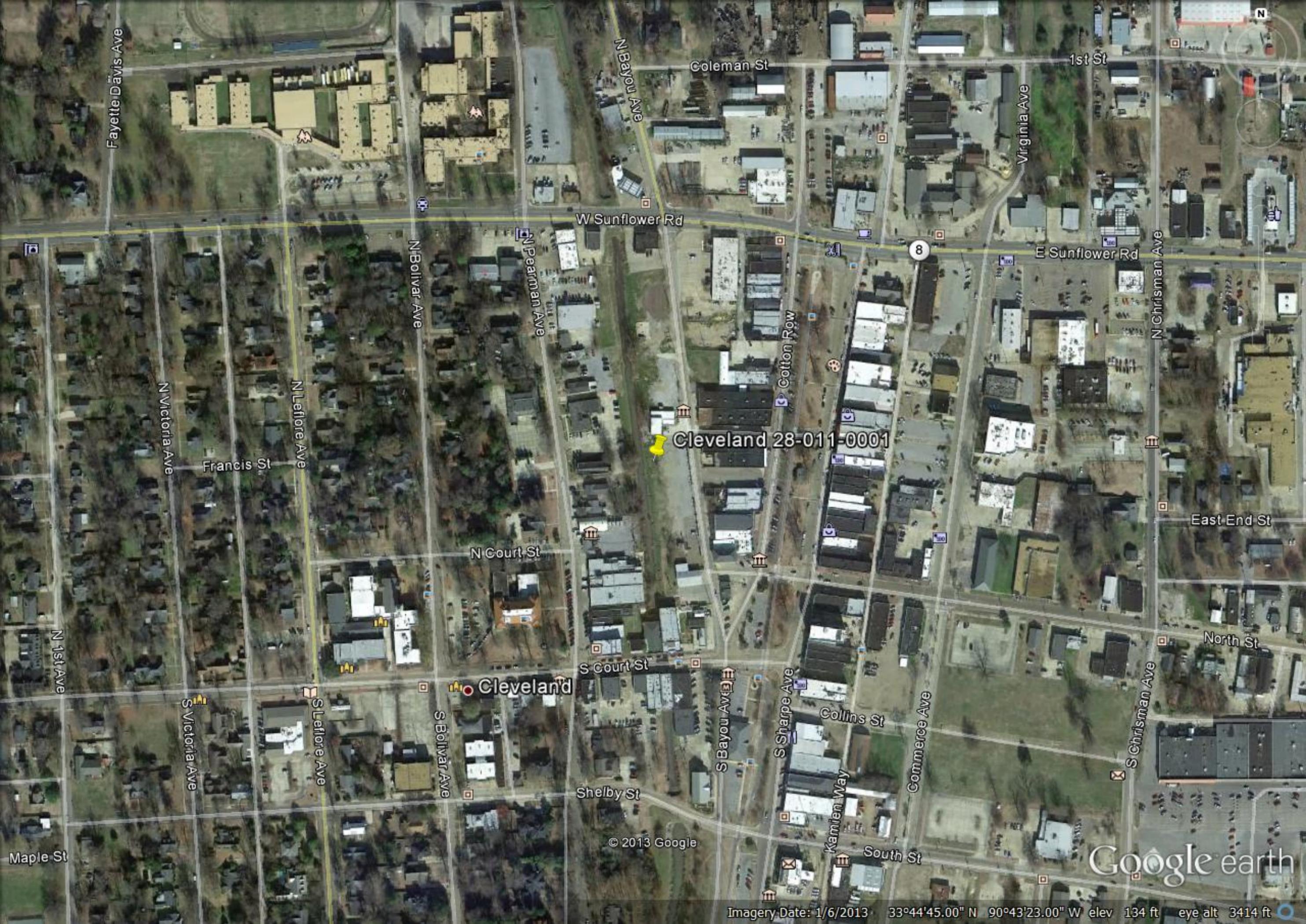


Delta State Golf Course

Delta State University

Cleveland
28-011-0001

61 278



Cleveland 28-011-0001

Cleveland

© 2013 Google

Google earth

Imagery Date: 1/6/2013 33°44'45.00" N 90°43'23.00" W elev 134 ft eye alt 3414 ft



Grenada - N



Grenada - E



Grenada - S



Grenada - W



Grenada 28-043-0001



Grenada

LIVE TRAFFIC

MAP

SATELLITE



55 7

Grenada 28-043-0001

GRENADA MUNICIPAL AIRPORT



Geeslin Corner

Memphis Junction

2000ft
500m

mapquest



Grenada 28-043-0001

Boone Airport Rd

333

Mississippi 333 Scenic Loop

Old Hwy 7

332

Google earth

© 2013 Google



Hernando - N



Hernando - E



Hernando - S

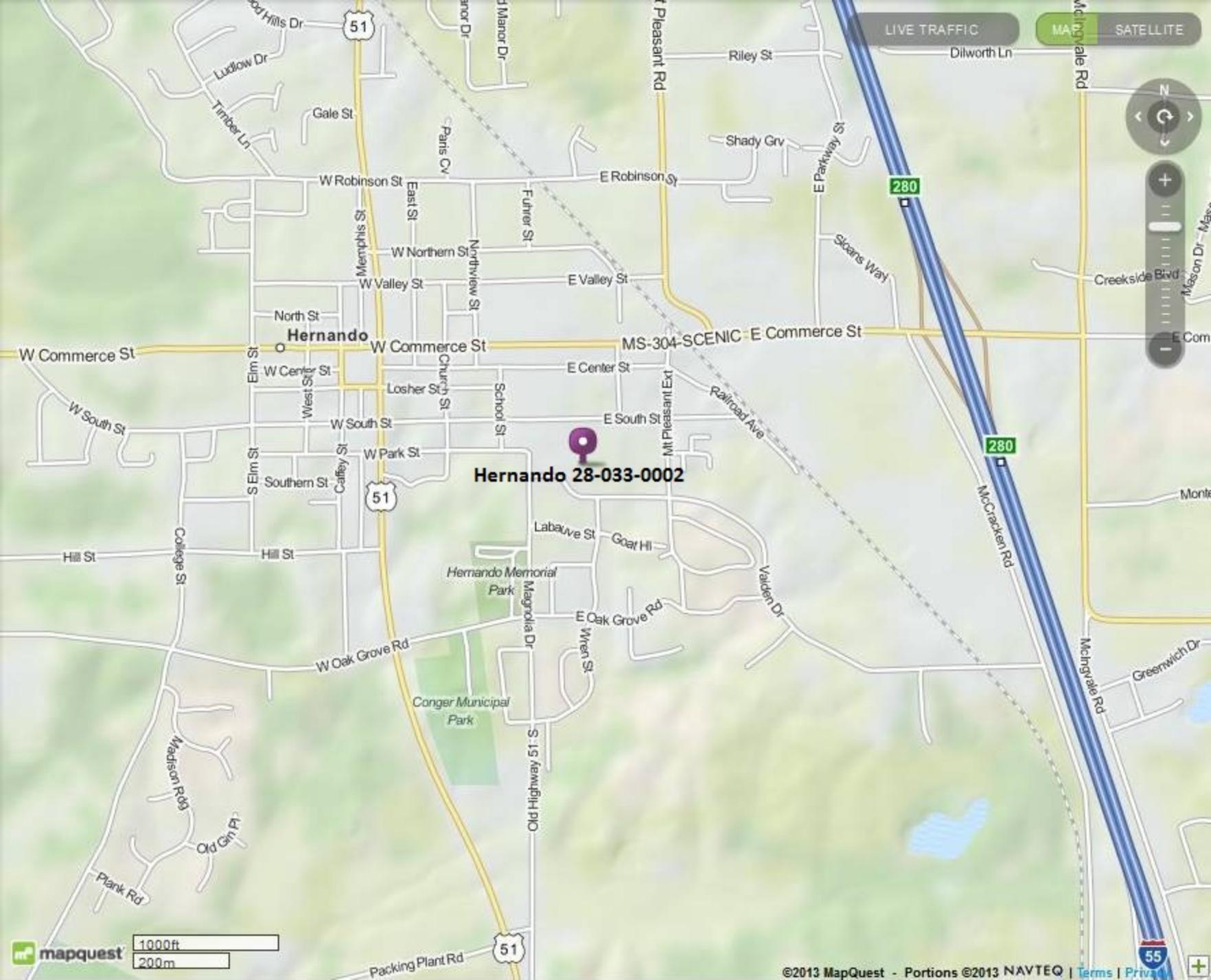


Hernando - W



Hernando 28-033-0002





LIVE TRAFFIC

MA

SATELLITE

51

280

280

Hernando

Hernando 28-033-0002

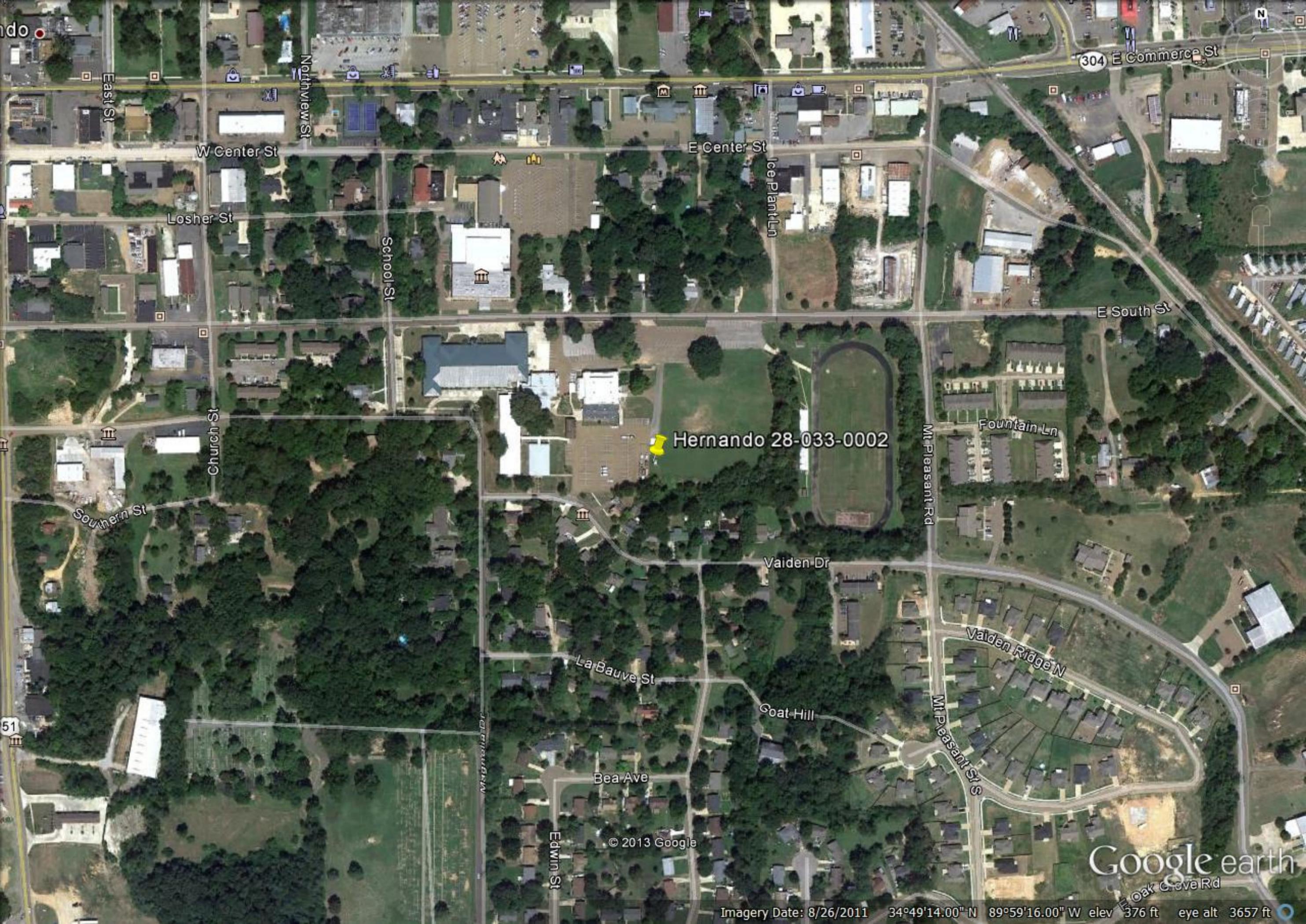
51

55

mapquest

1000ft

200m



Hernando 28-033-0002

© 2013 Google

Google earth

Imagery Date: 8/26/2011 34°49'14.00" N 89°59'16.00" W elev 376 ft eye alt 3657 ft



Tupelo - N



Tupelo - E



Tupelo - S



Tupelo - W



Tupelo 28-081-0005



LIVE TRAFFIC

MAP

SATELLITE



N Coley Rd

TUPELO REGIONAL AIRPORT

Tupelo 28-081-0005

Lemons Dr

W Jackson St Ext

Gun Club Rd

Winchester Ck

Mahogany Dr

Holly Hill Dr

Beechnut St

Elderberry St

Birch St

Spruce St

Sycamore St

Rosewood Dr

Redbud Ln

Rosewood St

Poplarville St

Robindale Dr

Evergreen St

Bay Cir

W Bay Cir

E Bay Cir

Natchez Trace Pky

Leighton Dr

Patterson Dr

W Bristow Dr

Arlington Dr

Alpine St

Albany St

Vassar Dr

James Dr

W Jackson St

Crabapple Dr

Lana Ln

Holmes St

N Lone St

N Joann St

Ruth St

N Foster Dr

Rhenda St

S Joann St

One St

Danny St

Winfield Dr

Hillfield Cv

N Thomas St

Park Gate Dr

W Main St

Woods St

Narney Dr

S Foster Dr

Torrey St

Air Park Rd

Old Runway Rd

Orville Wright St

Wilbur Wright St

Convention D

278 6

mapquest

1000ft

200m



W Jackson St Street Extended

Mahogany Dr

Sourwood Dr

Persimmon Dr

Huckleberry Trail

Bay Cir

Beechnut St

Redbud Ln

Hickory Dr

Evergreen St

Elderberry St

Holly Hill Dr

Poplarville St

W Jackson St

Lemons Dr

A Park Rd

Coley Rd

Tupelo 28-081-0005

© 2013 Google

Google earth

Imagery Date: 10/28/2012 34°15'56.88" N 88°45'50.19" W elev 342 ft eye alt 5372 ft



Meridian - N



Meridian - E



Meridian - S



Meridian - W



Meridian 28-075-0003





Meridian 28-075-0003

Old Hwy 80 W

Hwy 19 N

40th St

9th St

8th St

Vally St

Valley St

48th Ave

49th Ave

51st Ave

Manning St

52nd Ave

53rd Ave

54th Ave

55th Ave

56th Ave

© 2013 Google

Google earth

Imagery Date: 10/16/2011 32°21'51.31" N 88°43'50.66" W elev 360 ft eye alt 3049 ft



Jackson - N



Jackson - E



Jackson - S

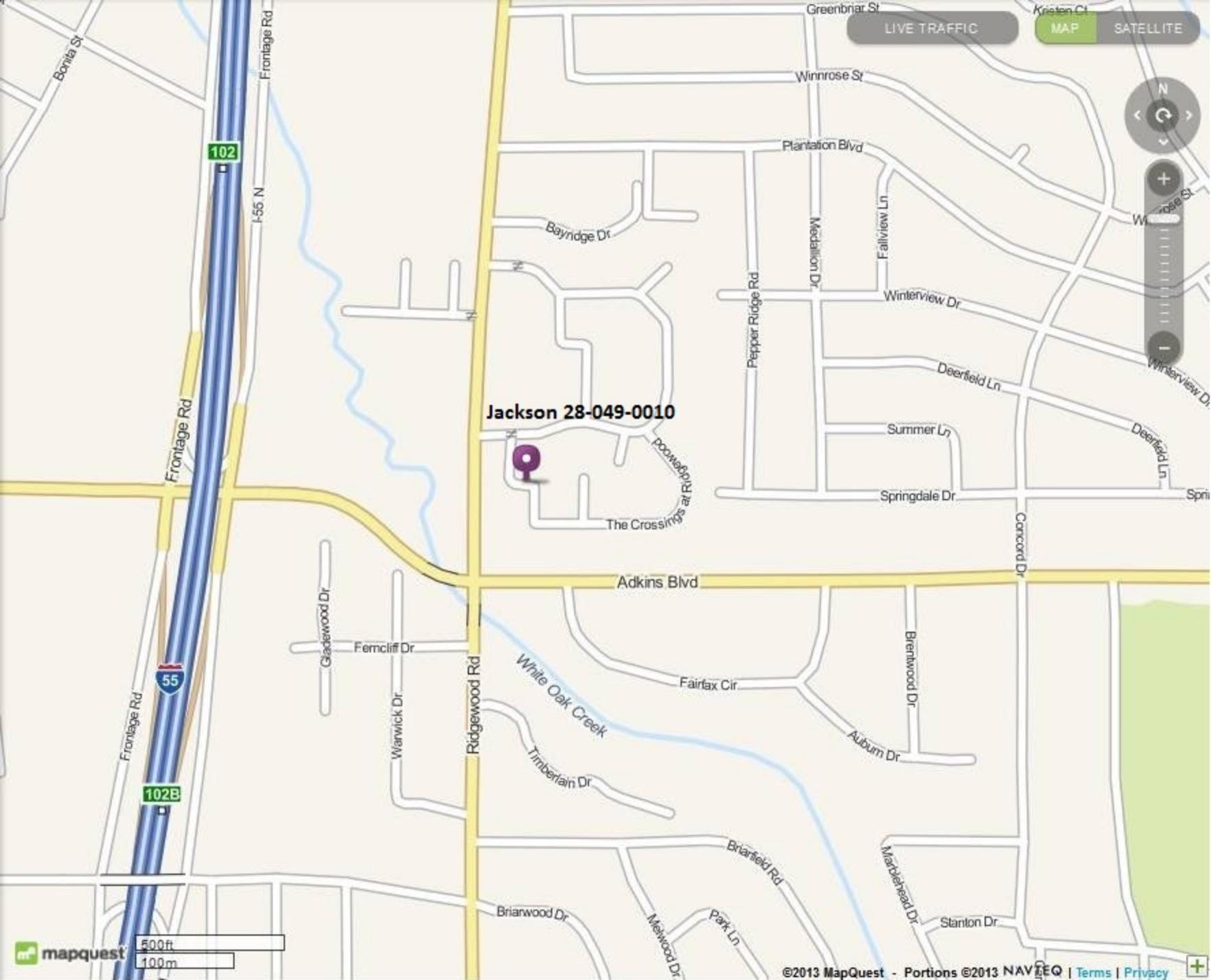


Jackson - W



Jackson 28-049-0010





LIVE TRAFFIC

MAP

SATELLITE



Jackson 28-049-0010

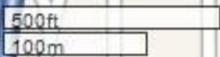


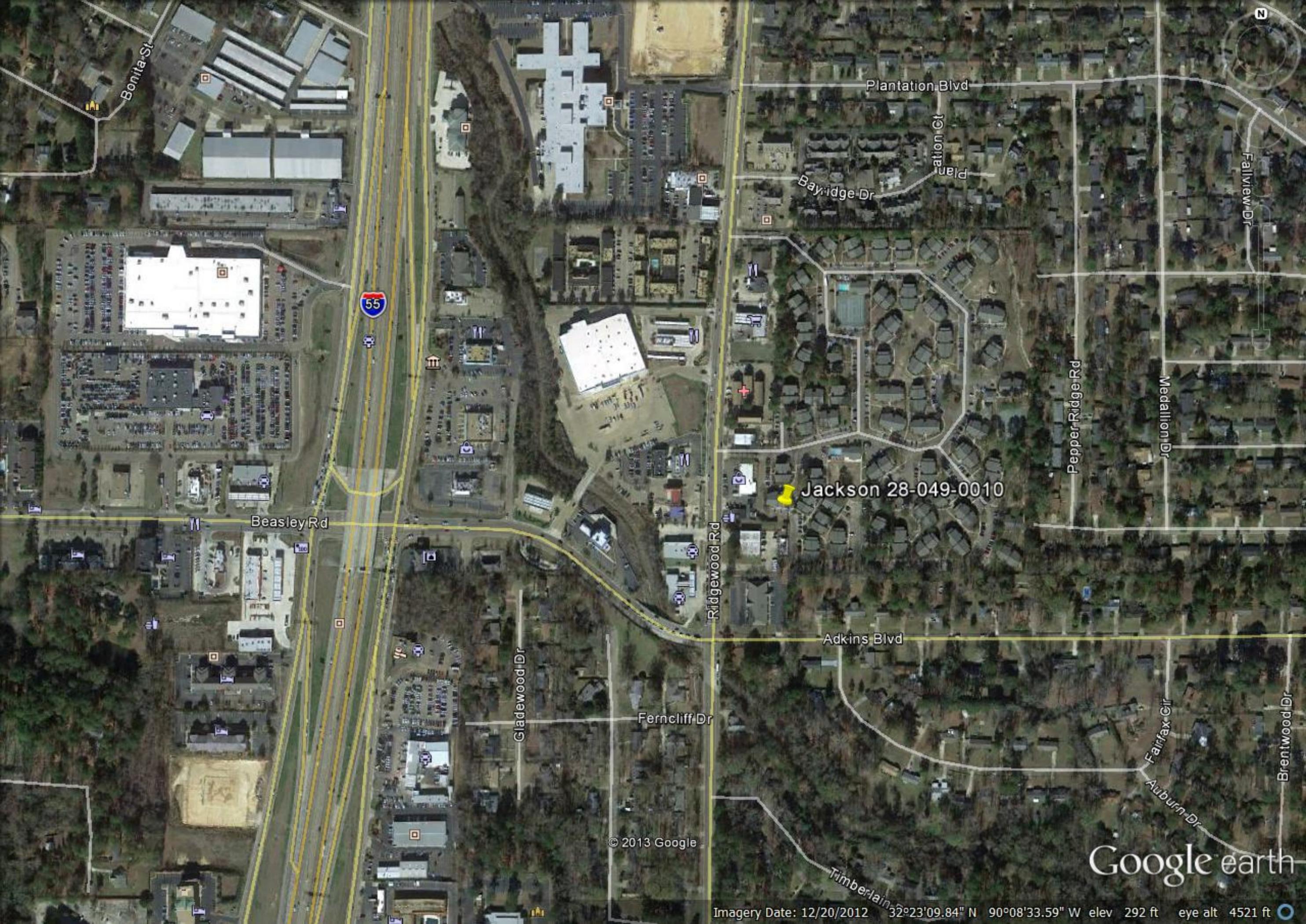
102

102B

55

mapquest





Bonita St

Plantation Blvd



Plantation Ct

Bayridge Dr

Fallview Dr

Beasley Rd

Jackson 28-049-0010

Pepper Ridge Rd

Medallion Dr

Ridgewood Rd

Adkins Blvd

Gladewood Dr

Ferncliff Dr

Fairfax Cir

Brentwood Dr

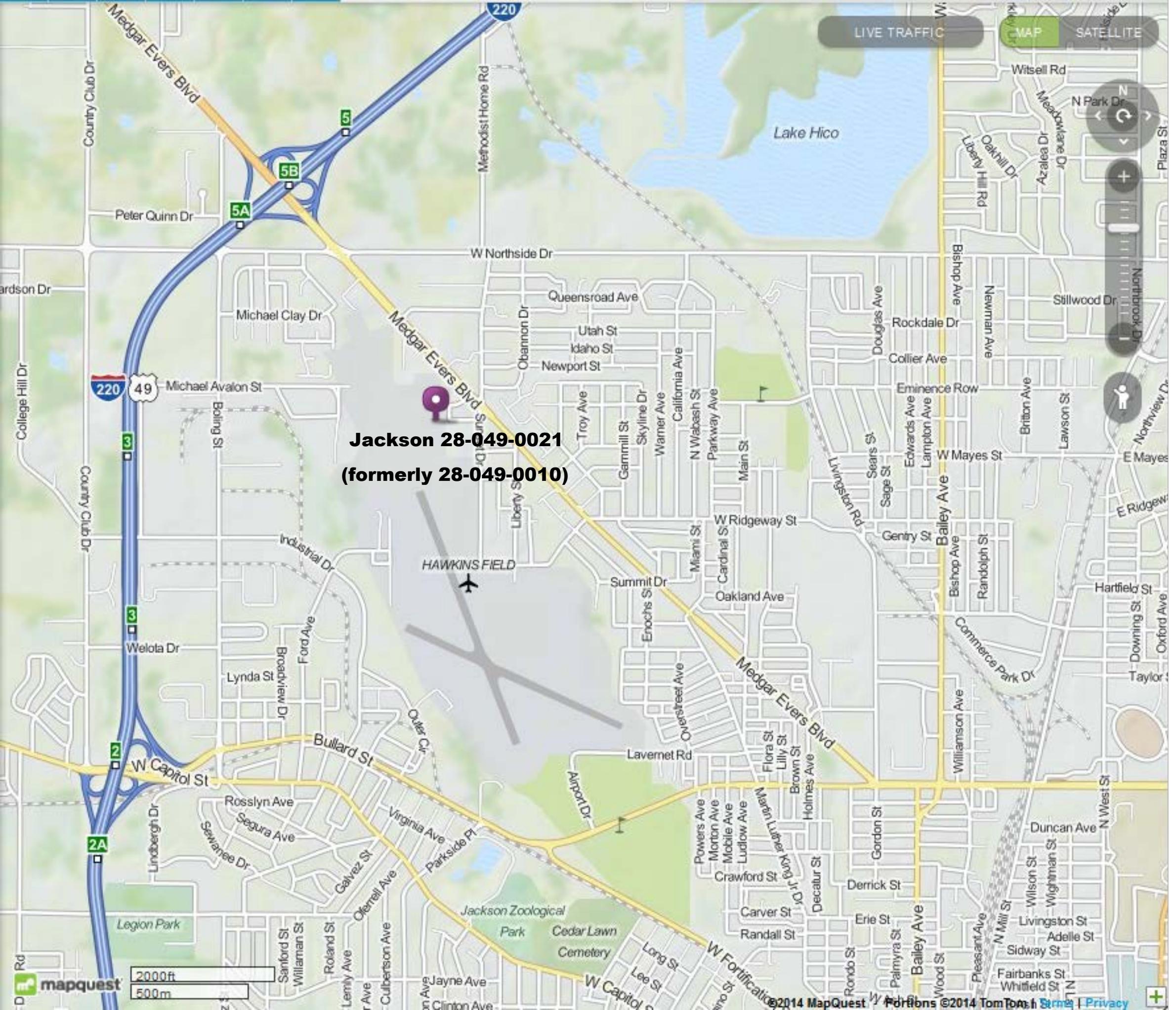
© 2013 Google

Google earth

Imagery Date: 12/20/2012 32°23'09.84" N 90°08'33.59" W elev 292 ft eye alt 4521 ft

Timberlain Dr

Auburn Dr



Jackson 28-049-0021
(formerly 28-049-0010)

Jackson 28-049-0021 (formerly 28-049-0010)

Sunset Dr

Delta Dr

Newport St

Obannon Dr

Skyline Dr

Skyview Dr

Medgar Evers Blvd

Ivanhoe Ave

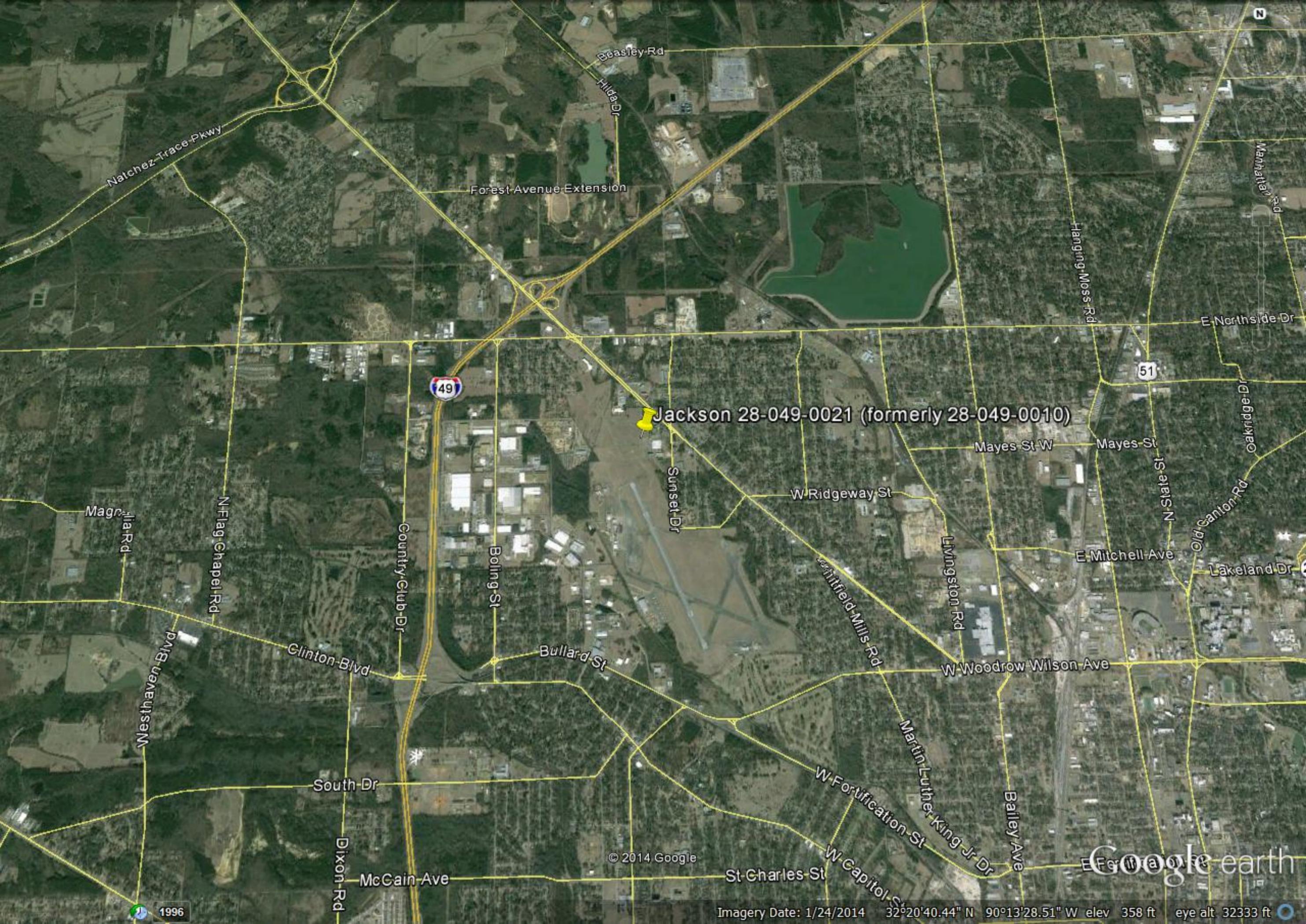
Liberty St

© 2014 Google

Google earth

1992

Imagery Date: 1/24/2014 32°20'48.26" N 90°13'25.91" W elev 363 ft eye alt 2301 ft



Jackson 28-049-0021 (formerly 28-049-0010)

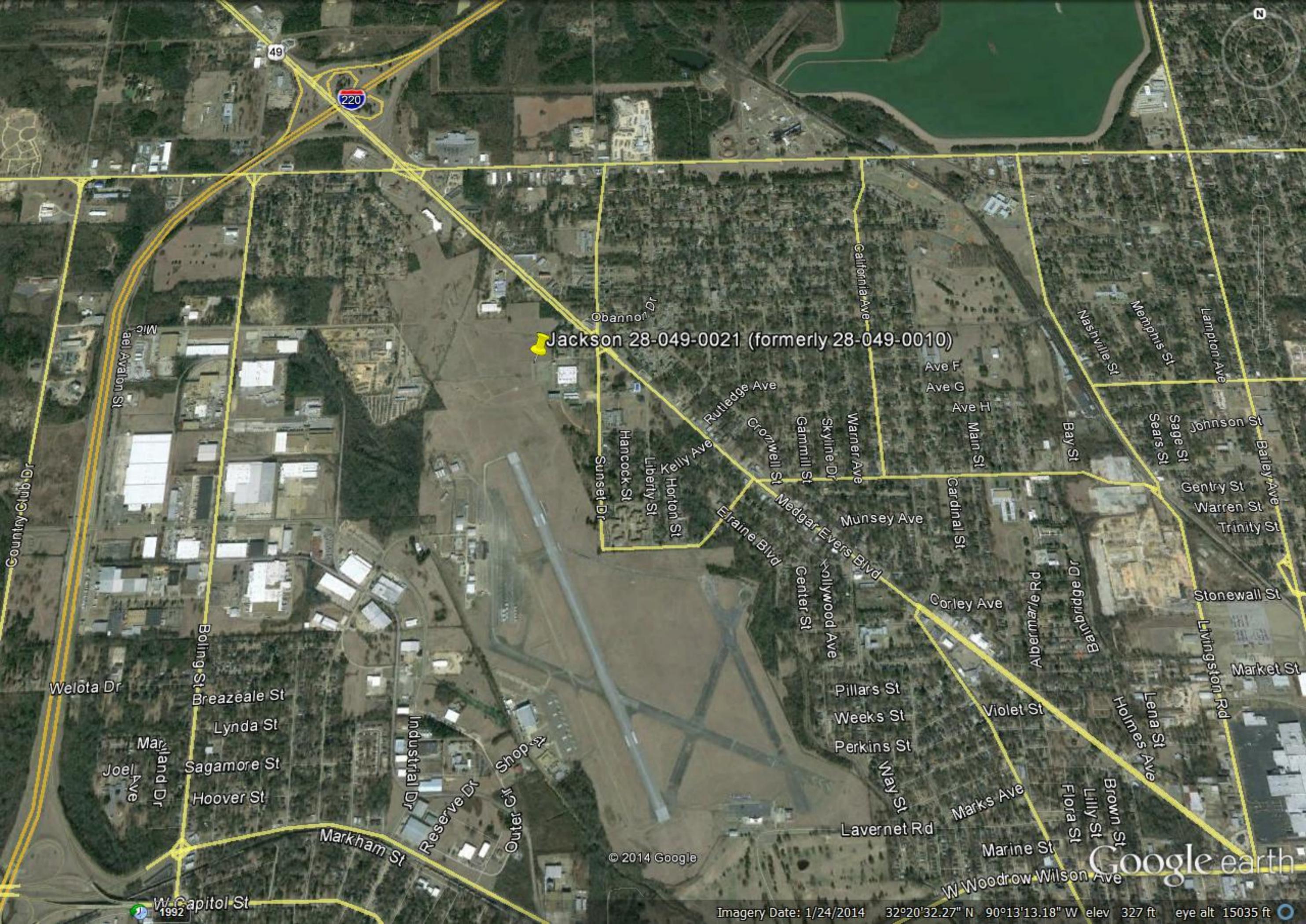


© 2014 Google

Google earth

Imagery Date: 1/24/2014 32°20'40.44" N 90°13'28.51" W elev 358 ft eye alt 32333 ft

1996



Jackson 28-049-0021 (formerly 28-049-0010)

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Google earth

Imagery Date: 1/24/2014 32°20'32.27" N 90°13'13.18" W elev 327 ft eye alt 15035 ft

W Capitol St 1992



Jackson NCore - N



Jackson NCore - E



Jackson NCore - S

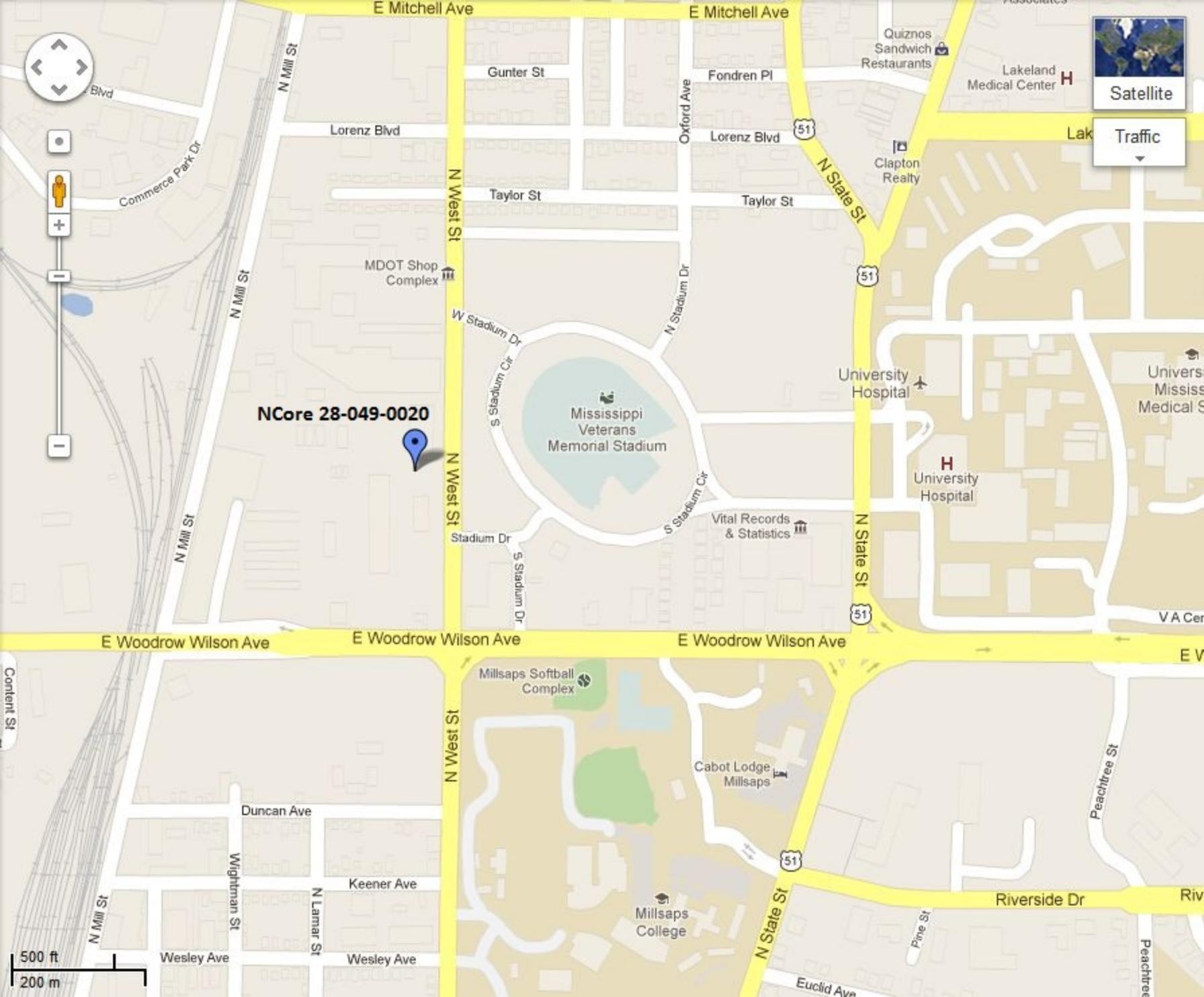


Jackson NCore - W



Jackson NCore

**Jackson NCore
Site Views
28-049-0020**



NCore 28-049-0020



Satellite

Traffic

500 ft
200 m



NCore 28-049-0020

W Woodrow Wilson Ave

Service St

E Woodrow Wilson Ave

N West St

N Mill St

Stadium Dr

S Stadium Dr

S Stadium Ct

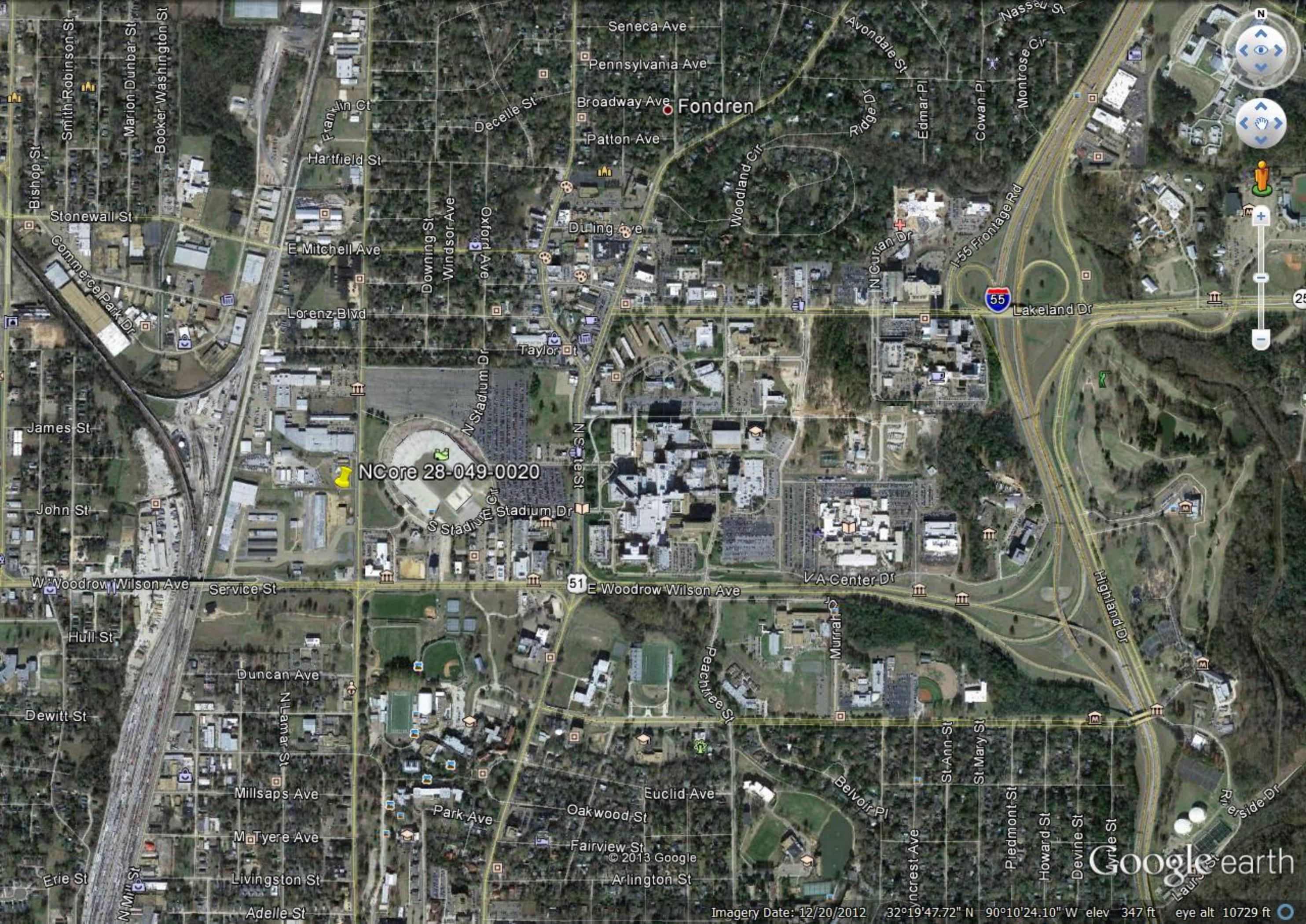
N Stadium Dr

E Stadium Dr

© 2013 Google

Google earth

Imagery Date: 12/20/2012 32°19'44.80" N 90°10'57.80" W elev 337 ft eye alt 3618 ft

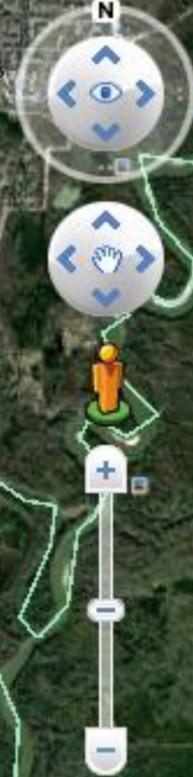
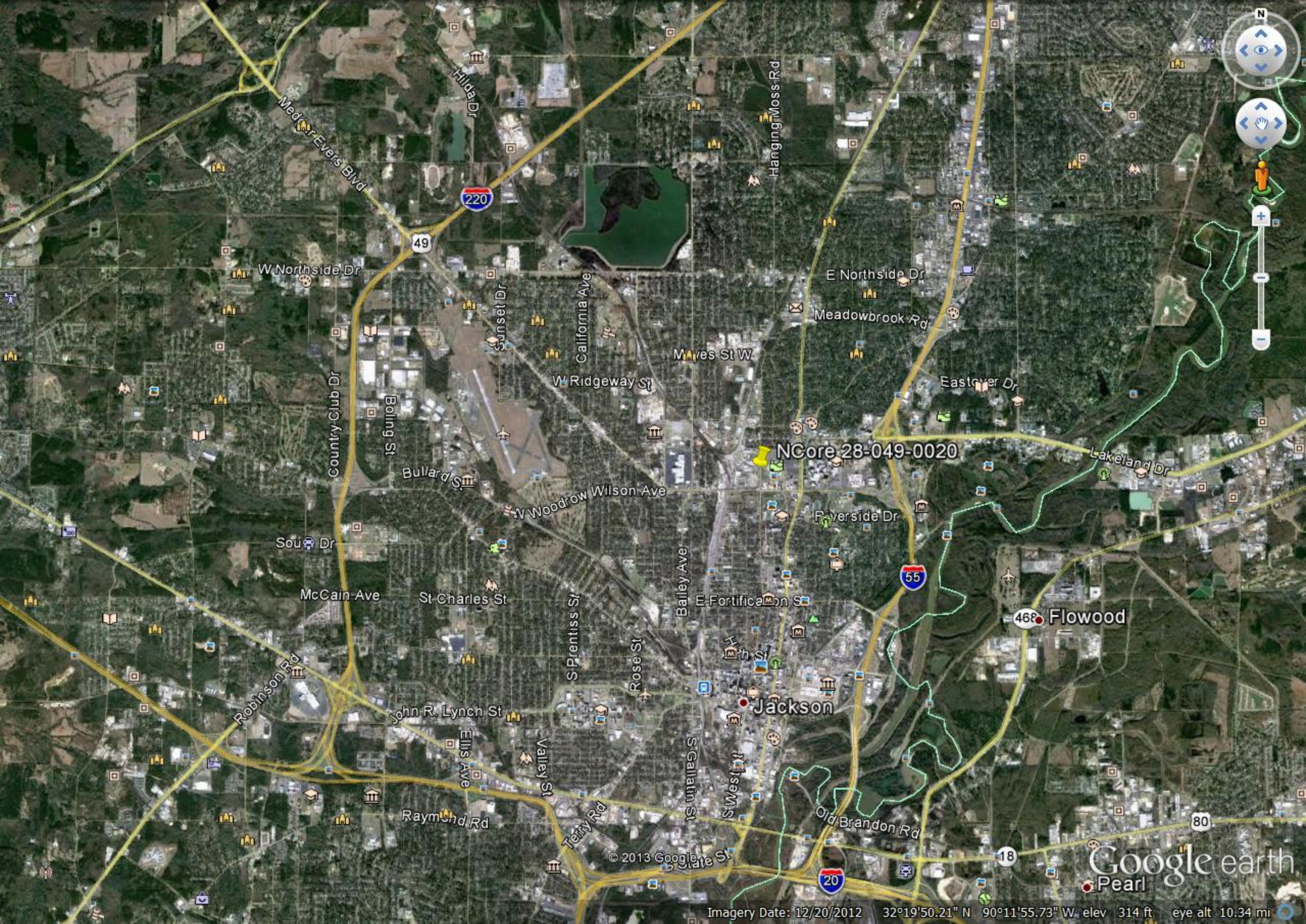


NCore 28-049-0020

© 2013 Google

Google earth

Imagery Date: 12/20/2012 32°19'47.72" N 90°10'24.10" W elev 347 ft eye alt 10729 ft



NCore 28-049-0020

468 Flowood

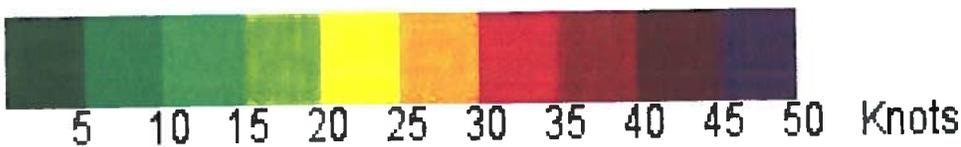
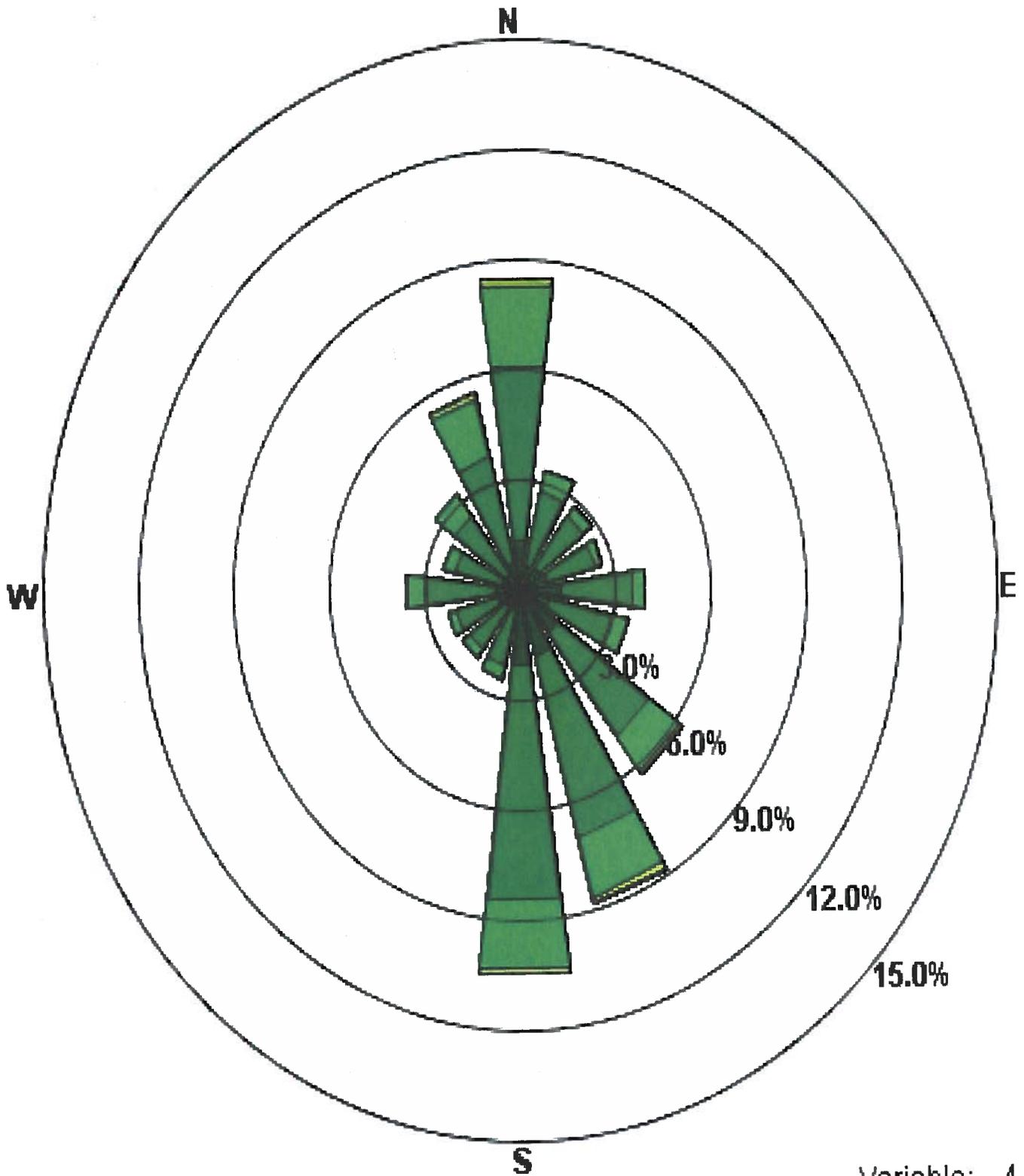
Jackson

Google earth
Pearl

Imagery Date: 12/20/2012 32°19'50.21" N 90°11'55.73" W elev 314 ft eye alt 10.34 mi

JACKSON/ALLEN C. TH

30-year summary: 1980 - 2009



Variable: 4.4%
Calm: 21.5%
Mean: 5.6 KT



Gulfport - N



Gulfport - E



Gulfport - S



Gulfport - W



Gulfport 28-047-0008



LIVE TRAFFIC

MAP

SATELLITE

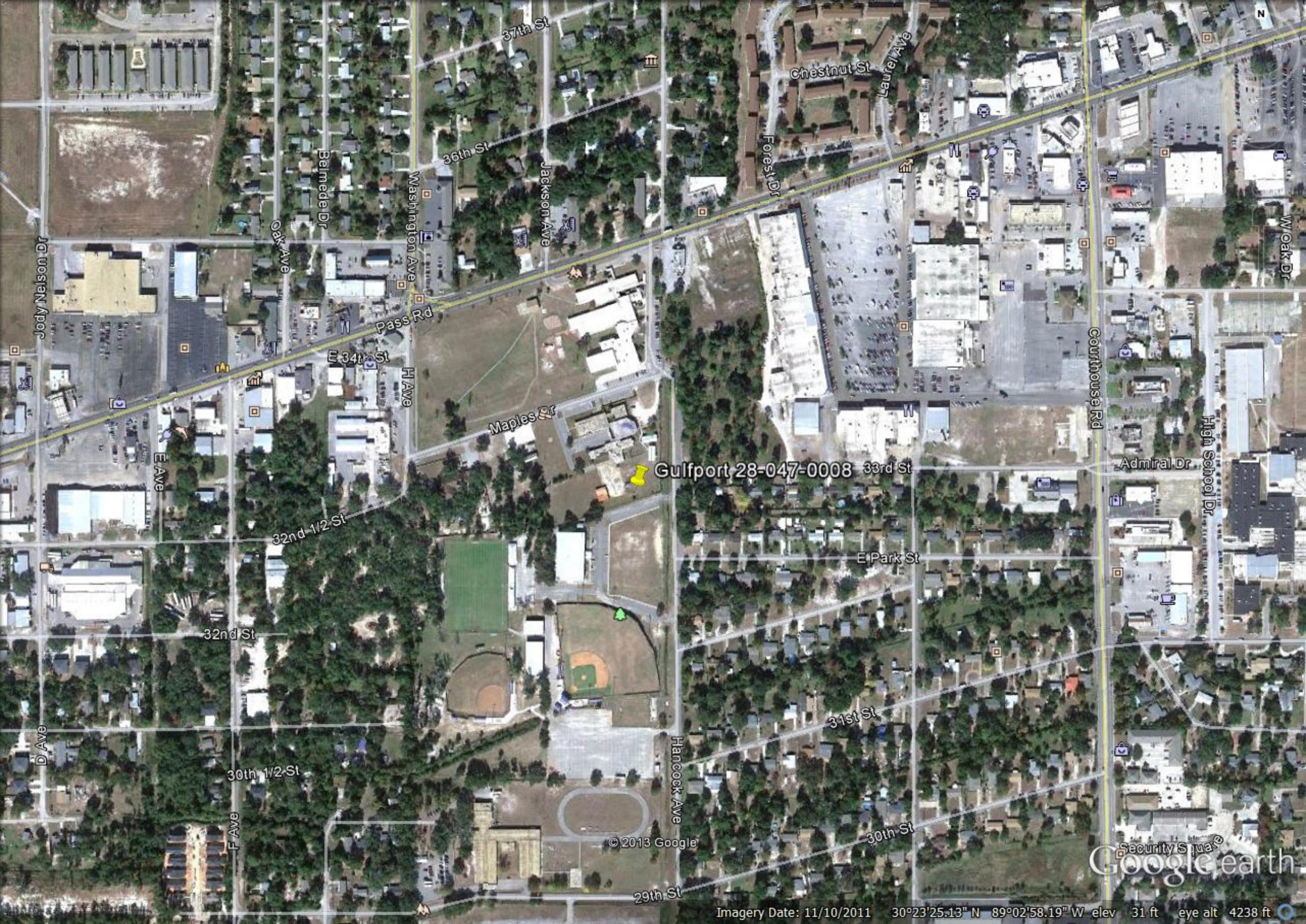


Gulfport 28-047-0008



mapquest





Gulfport 28-047-0008

© 2013 Google

Security S...
Google earth



Waveland - N



Waveland - E



Waveland - S



Waveland - W



Waveland 28-045-0003



Hancock

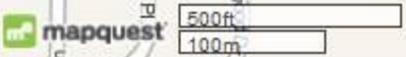
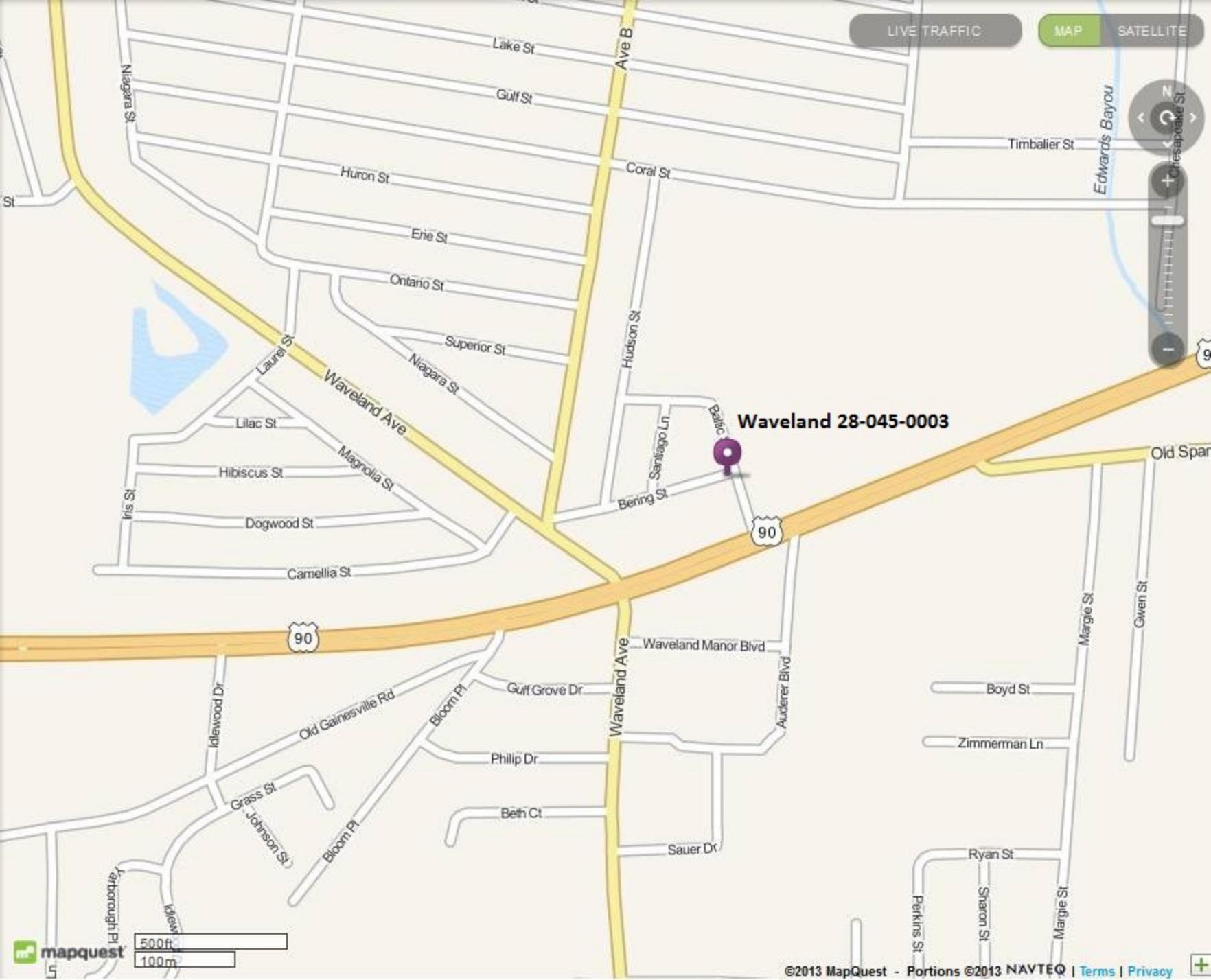
LIVE TRAFFIC

MAP

SATELLITE



Waveland 28-045-0003





Chesapeake St



Waveland 28-045-0003

90

© 2013 Google

Google earth

Imagery Date: 10/29/2012 30°18'00.19" N 89°23'48.53" W elev 15 ft eye alt 4704 ft



Pascagoula - N



Pascagoula - E



Pascagoula - S



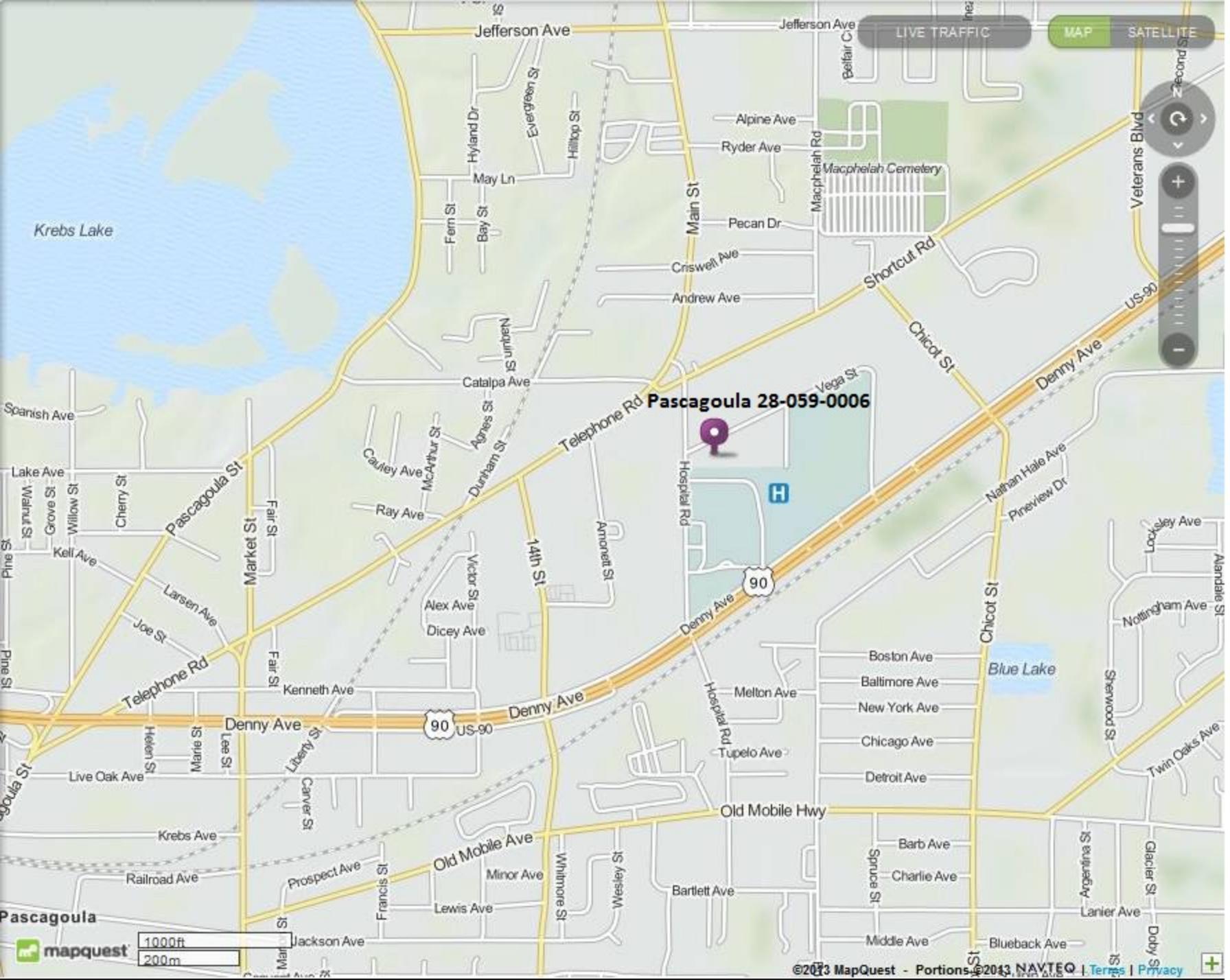
Pascagoula - W



Pascagoula 28-059-0006



Jackson



LIVE TRAFFIC

MAP

SATELLITE

Krebs Lake

Pascagoula 28-059-0006

90

90

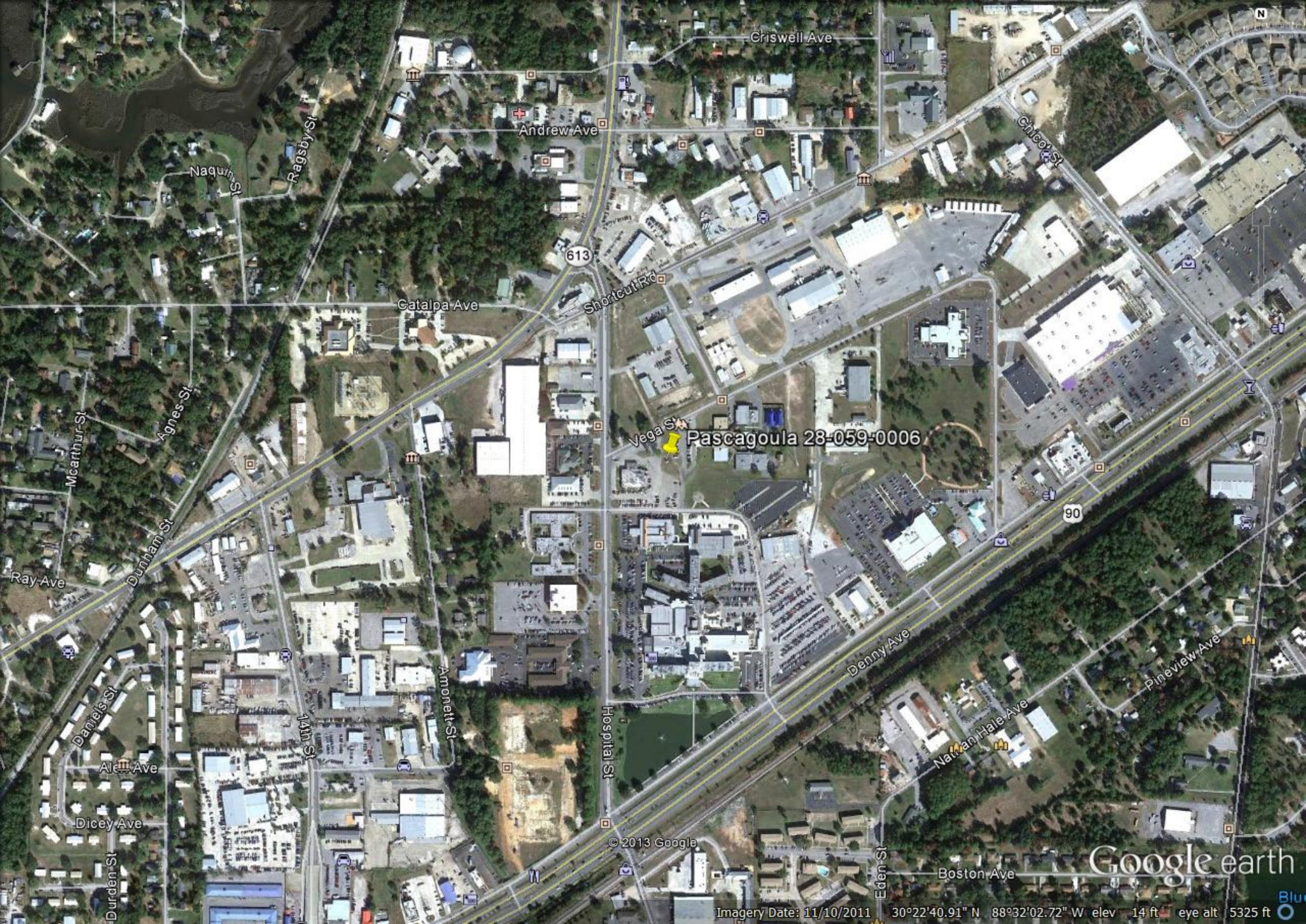
US-90

Blue Lake

mapquest

1000ft
200m

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Pascagoula 28-059-0006

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Google earth

Imagery Date: 11/10/2011 30°22'40.91" N 88°32'02.72" W elev 14 ft eye alt 5325 ft



Hattiesburg – N



Hattiesburg – E



Hattiesburg - S



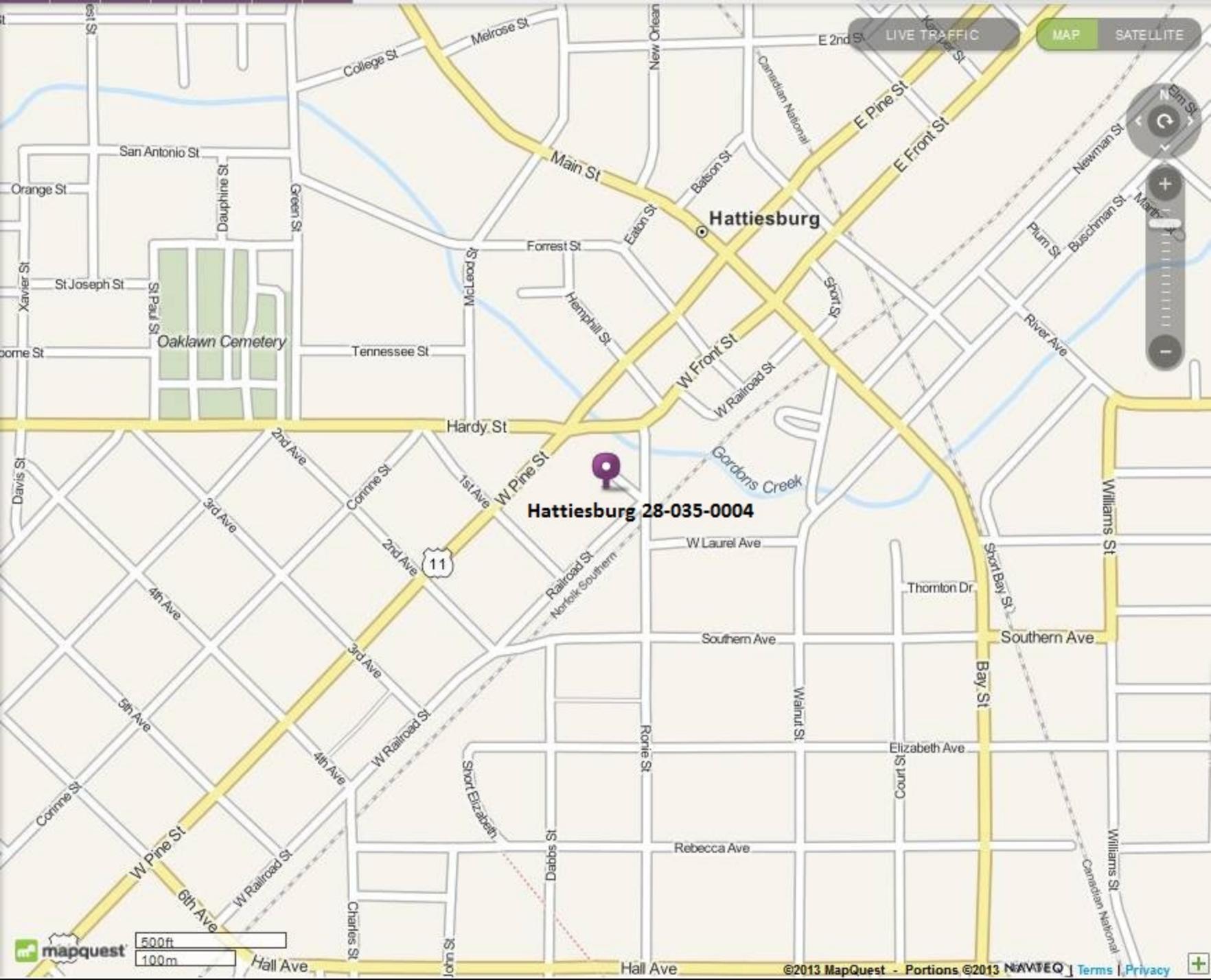
Hattiesburg – W



Hattiesburg 28-035-0004



Forrest



LIVE TRAFFIC

MAP

SATELLITE

Hattiesburg

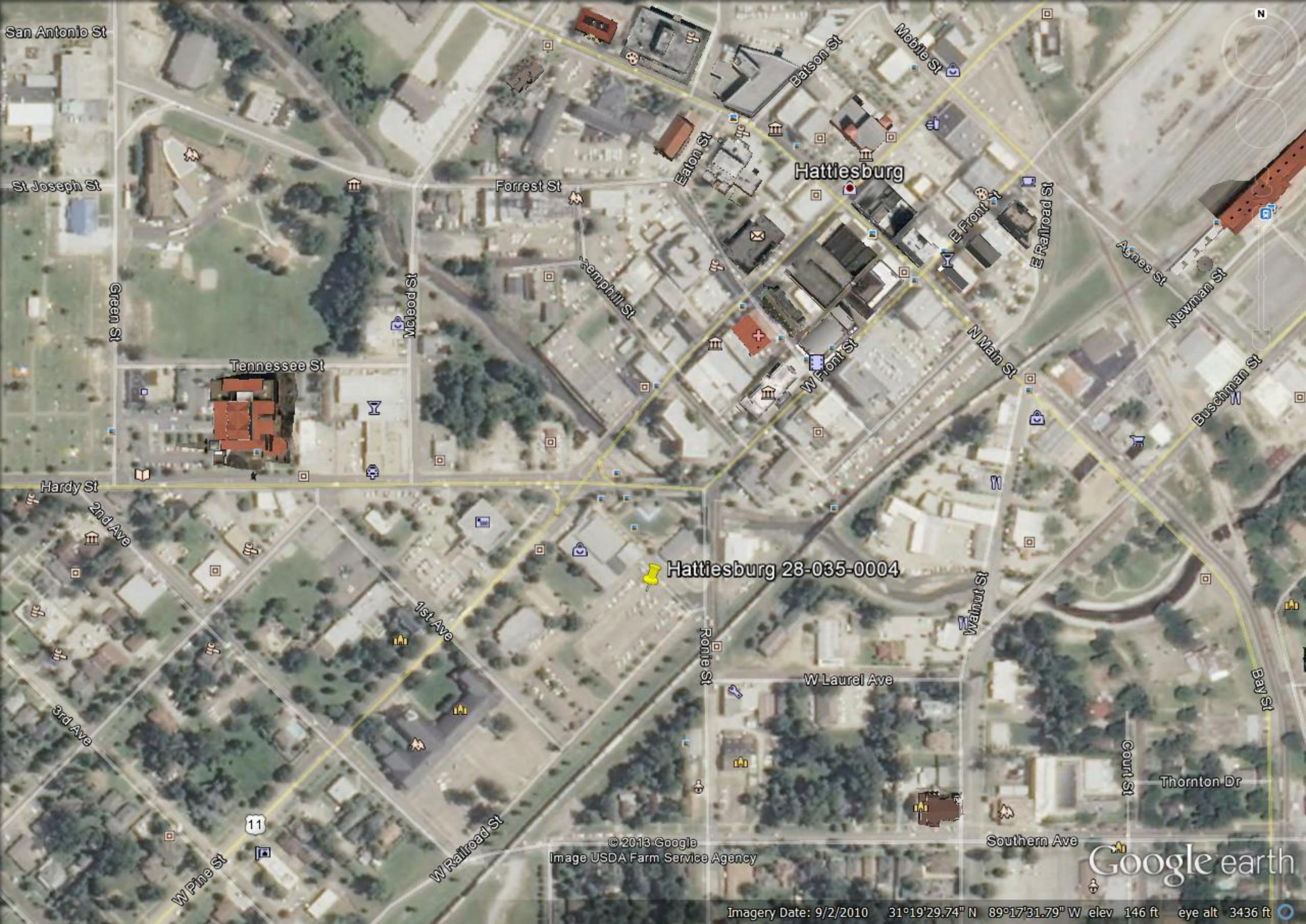
Hattiesburg 28-035-0004



mapquest

500ft
100m

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Hattiesburg 28-035-0004

© 2013 Google
Image USDA Farm Service Agency

Google earth

Imagery Date: 9/2/2010 31°19'29.74" N 89°17'31.79" W elev 146 ft eye alt 3436 ft

Appendix II

Regional Monitoring Agreement

Misc-2013 RECEIVED
MAR 22 2013
Dept. of Environmental Quality



SHELBY COUNTY HEALTH DEPARTMENT



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Mark H. Luttrell, Jr.
Mayor
Shelby County

YVONNE S. MADLOCK
DIRECTOR

HELEN MORROW, M.D.
HEALTH OFFICER

March 20, 2013

Mr. Robert Brawner, Acting Chief Environmental Manager
Tennessee Division of Air Pollution Control
9th Floor, L & C Annex
Nashville, TN 37243-1531

Ms. Maya Rao, Chief of the Air Division
Mississippi Department of Environmental Quality
Office of Pollution Control, Air Division
P.O. Box 2261
Jackson, MS 39225

Mr. Mike Bates, Chief of the Air Division
Arkansas Department of Environmental Quality
5301 Northshore Dr.
North Little Rock, AR 72118

Dear All,

Attached is a revision to the Air Monitoring Memorandum of Agreement (MOA) between our respective agencies. This revision document serves as the notification of changes described in the MOA between the Shelby County Health Department (SCHD), Mississippi Department of Environmental Quality (MDEQ), and the Arkansas Department of Environmental Quality (ADEQ) signed May and June of 2008. Of primary interest is the discontinuation of the SO₂ monitor and relocation of the PM 10 monitor at Fite Rd (47-157-0046). Also, EPA has requested that the PM 2.5 Speciation Trends Network monitor at the Alabama Station (47-157-0024) be discontinued.

NCORE

Shelby County was chosen by EPA as one of 75 NCORE site locations, nationally. This multi-pollutant air monitoring station is located at 6388 Haley Road (47-157-0075) in the Shelby Farms area.

NO₂

The Shelby County Health Department (SCHD) once operated a NO₂ analyzer at 416 Alabama (47-157-0024). It began to malfunction on October 23, 2006. The site operator, along with a service advisor with Teledyne Instruments Advanced Pollution Instrumentation concluded that diagnosis of the problem would have to be made at the factory. The Teledyne-API technician determined that the NO₂ analyzer needed considerable repair. Taking into account the age of the instrument and the cost of repair, it was deemed to be not worthy of repair. Also, the SCHD did not have the resources to replace the analyzer. As a consequence, NO₂ has not been monitored in Shelby County since 2006. This information has been notated in AQS.

Shelby County anticipates in participating in the Second Phase of the Core Based Statistical Area Near Road NO₂ monitoring in conjunction with the recently promulgated NO₂ regulations.

SO₂

The SCHD requested permission from the EPA on November 15, 2012 to discontinue the SO₂ monitor at Fite Rd (47-157-0046). The monitor began operating on May 1, 1994 and its primary objective was to monitor emissions impact from local sources in the area. The primary source in the area has reduced their emissions by greater than 90 percent since 2005. On January 10, 2013, the SCHD received approval from EPA to discontinue SO₂ monitoring at the Fite Rd. station. The letters requesting the discontinuation and approval are attached on pages 8 and 10 of the Appendix.

PM 2.5

The PM 2.5 continuous monitor (TEOM) is temporarily discontinued at the Alabama (47-157-0024) site. The EPA was notified on September 19, 2011 of the status on the monitor and has given the SCHD approval to temporarily discontinue this sampling until funds are located to replace the monitor. This monitor began to malfunction on July 25, 2011. This information has been noted in AQS. The letters requesting the discontinuation and approval are on pages 12 and 13 of the Appendix.

The EPA requested that the PM 2.5 Speciation Trends Network be discontinued on January 28, 2013. Funding from the EPA was discontinued. Also, EPA recognized that another Speciation Trends Network is operating at the Shelby Farms NCORE site on a 1 in 3 day schedule. This collocated sampler at the Alabama Station would not be needed. A letter of request was submitted to EPA on February 4th, 2013. It is located on page 11 of the Appendix.

PM 10

The PM 10 monitor located at Fite Rd. (47-157-0046) has been given approval by EPA to be relocated to the Alabama Station (47-157-0024). The letter requesting the relocation and approval of the monitor is located on pages 8 and 10 of the Appendix.

OZONE

The ozone monitoring requirement for NCORE increases the number of ozone analyzers in Shelby County to three at the following sites: 47-157-0021, 47-157-0075 and 47-157-1004.

LEAD

The current lead (Pb) NAAQS requires identifying sources of lead emissions of one half ton per year or greater. The emissions inventory indicates that there are no sources with emissions of one half ton or greater. Therefore, the SCHD does not anticipate having to do any lead source sampling. However, lead monitoring is a component of the NCORE site. Lead sampling began on January 4, 2012.

If you have any questions, please call me at (901) 222-9578.

Sincerely,



Bob Rogers, Technical Manager
Pollution Control

**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 Environmental Quality (ADEQ)

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 ADEQ 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 10), particles of an aerodynamic diameter of 2.5 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>Continuous PM 2.5</u>	<u>Speciation PM 2.5</u>	<u>Co located PM 2.5</u>
Shelby County, TN SCHD	2	1	1	1
Crittenden County, AR ADEQ	1	1		
DeSoto County, MS MDEQ	1	1		1

Criteria Air Pollutant MSA monitoring network include:

<u>County</u>	<u>PM 10</u>	<u>O₃</u>	<u>NO_x/NO/NO₂</u>	<u>CO</u>	<u>SO₂</u>
Shelby County, TN SCHD	2	3	0	2 (includes 1 trace at NCORE)	1 (trace at NCORE)
Crittenden County, AR ADEQ		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 ADEQ 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 ADEQ, their officers or employees, or any other person. This MOA does not apply to any entity outside SCHD, MDEQ, or ADEQ.
- 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 ADEQ. Each party reserves the right to terminate this MOA. A thirty (30) day written notice must be given prior to the date of termination.

Shelby County Air Pollution Monitoring Sites 2013

<u>Site</u>	<u>Address</u>	<u>State</u>	<u>County</u>	<u>Site</u>	<u>Pollutant</u>	<u>Parameter</u>	<u>POC</u>
Alabama	416 Alabama	47	157	0024	CO	42101	1
					PM 10	81102	1
Edmund Orgill	6855 Mudville Rd.	47	157	1004	O₃	44201	1
Frayser	1330 Frayser Blvd.	47	157	0021	O₃	44201	1
Gas Service Center	1060 Tupelo	47	157	0016	PM 10	81102	1
					PM 10	81102	2
Guthrie Clinic	1064 Breedlove	47	157	0047	PM 2.5	88101	1
					PM 2.5	88101	2
Shelby Farms (NCORE)	6388 Haley Rd.	47	157	0075	Pb	14129	1
					CO (Trace)	42101	1
					SO₂ (Trace)	42401	1
					NOY	42600	1
					O₃	44201	1
					PM 10 (Lo Vol)	85101	1
					PM 10-2.5	86101	1
					PM 2.5	88101	1
					PM 2.5	88502	3
					PM 2.5	88502	6
					Wind Speed	61101	1
					Wind Direction	61102	1
					Ambient Temperature	62101	1
					Relative Humidity	62201	1
					Barometric Pressure	64101	1

APPENDIX

Letter to EPA requesting discontinuation of Fite Rd Station.....	8
EPA approval letter to discontinue Fite Rd.Station.....	10
Letter to EPA requesting discontinuation of STN at Alabama Station.....	11
Letter to EPA requesting discontinuation of PM 2.5 TEOM at Alabama Station.....	12
EPA approval letter to discontinue PM 2.5 TEOM at Alabama Station.....	13



Mark H. Luttrell, Jr.
Mayor
Shelby County

SHELBY COUNTY HEALTH DEPARTMENT

YVONNE S. MADLOCK
DIRECTOR

HELEN MORROW, M.D.
HEALTH OFFICER



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November 15th, 2012

Ryan Brown
Environmental Engineer
U.S. Environmental Protection Agency, Region 4
Air, Pesticides & Toxics Management Division
61 Forsyth Street, SW
Atlanta, GA 30303

Dear Mr. Brown,

The Shelby County Health Department (SCHD) is requesting approval to discontinue the sulfur dioxide (SO₂) monitor at the Fite Road (47-157-0046) Air Monitoring Station effective January 1, 2013. The monitor began operating on May 1, 1994 and its primary objective was maximum precursor emissions impact from the local sources in the area. The three (3) Year Design Value for 2010 was 11 parts per billion. The highest concentration for SO₂ for a 1 hour period in 2010 was 15 parts per billion and the average concentration was 3.74 parts per billion. The primary source in the area has reduced their emissions by greater than 90 percent since 2005. Therefore, with industry reducing their emissions and with the data reflecting a significant drop in the amount of SO₂ measured, the Shelby County Health Department is requesting that the Fite Road SO₂ monitor be discontinued.

On June 21, 2011, the Shelby County Health Department began operating a Trace Level SO₂ monitor at the Shelby Farms (47-157-0075) NCORE Air Monitoring Station. The monitoring objective of the NCORE site was to produce data that represents a fairly large area in a neighborhood or urban scale. Trace Level SO₂ Monitoring east of the urban core will provide the best location for measuring transport and secondary pollutant formation from that area. With the placement of the Trace Level SO₂ monitor downwind of the more industrialized areas, this compliments the existing network. Therefore, the Shelby County Health Department is requesting permission to use the Trace Level SO₂ monitor at the Shelby Farms NCORE to meet the minimum monitoring requirements in the Memphis CBSA.

In addition, the Shelby County Health Department is requesting permission to discontinue the PM 10 monitor at Fite Rd. (47-157-0046) effective January 1, 2013 and relocate the PM 10 monitor to the Air Monitoring Station located at 416 Alabama St. (47-157-0024) beginning January 1, 2013. This monitor began operating on May 1, 1994 at the Fite Rd. location. By relocating this PM 10 monitor to another Air

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(901) 222-9000

Monitoring Station, this will help to reduce costs. Also, during May 2010 Memphis sustained substantial flooding and one of the affected areas was where the Fite Road Air Monitoring Station was located.

These items were requested in Shelby County's Annual Ambient Air Monitoring Network Plan submitted by the State to EPA in June 2012. The Environmental Protection has given permission to discontinue the SO₂ monitoring at Fite Road and relocate the PM 10 monitoring from Fite Road in this review. This letter serves as a formal request from the Shelby County Health Department to receive permission from EPA to fulfill these objectives.

If you have any questions or comments, or if you require additional information, please contact me at (901) 222-9581.

Sincerely,



Judy Low, Acting Supervisor
Pollution Control / Air Monitoring Branch
Shelby County Health Department

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
81 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JAN 10 2013

Ms. Judy Low
Acting Supervisor
Pollution Control Air Monitoring Branch
Shelby County Health Department
814 Jefferson Avenue
Memphis, Tennessee 38105

Dear Ms. Low:

This is in response to your letter dated November 15, 2012, requesting that the U.S. Environmental Protection Agency Region 4 approve the discontinuation of sulfur dioxide (SO₂) and coarse particulate matter (PM₁₀) monitoring at Shelby County Health Department's Fite Road site (AQS ID 47-157-0046). SCHD requested to shut down its SO₂ monitor and move its PM₁₀ monitor to SCHD's monitoring site at 416 Alabama Avenue (AQS ID 47-157-0024).

The EPA already approved the shutdown of the Fite Road SO₂ monitor and conditionally approved the shutdown and relocation of the Fite Road PM₁₀ monitor in its September 21, 2012, response letter to Tennessee's 2012 annual ambient air monitoring network plan. The agency took these actions because it determined that the monitors meet the discontinuation requirements of 40 CFR § 58.14(c)(1) by being in attainment of the respective national ambient air quality standards (NAAQS) during the previous five years and by having a less than 10 percent chance of exceeding 80 percent of the NAAQs during the next three years. The agency also determined that after the Fite Road site is shutdown that the Memphis Core Based Statistical Area would still meet the minimum monitoring requirements for SO₂ and PM₁₀ found in 40 CFR Part 58, Section 4.4 and Table D-4. The agency approved the discontinuation and relocation of PM₁₀ monitoring on the condition that the PM₁₀ monitor would not be shutdown until SCHD formally identified a suitable alternative location. With SCHD's identification of the Alabama Avenue site as the new location for the PM₁₀ monitor (per its November 15, 2012, letter), the EPA fully approves the PM₁₀ monitor shutdown at the Fite Road site and relocation to the Alabama Avenue site.

Should you have any questions, please feel free to contact Ryan Brown of my staff at (404) 562-9147 or Brown.Ryan@epa.gov.

Sincerely,

Carol G. Kembar for 1/4/13

Beverly H. Banister
Director
Air, Pesticides and Toxics
Management Division

cc: Mr. Robert Brawner, TDEC

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Mark H. Luttrell, Jr.
Mayor
Shelby County

SHELBY COUNTY HEALTH DEPARTMENT

YVONNE S. MADLOCK
DIRECTOR

HELEN MORROW, M.D.
HEALTH OFFICER



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February 4th, 2013

Mr. Todd Rinck
Monitoring and Technical Support Section Chief
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303

Dear Mr. Rinck,

The Shelby County Health Department (SCHD) is requesting approval to discontinue the Speciation Trends Network at the Alabama Avenue (47-157-0024) Air Monitoring Station effective January 28, 2013. The monitor began operating on May 14, 2006 as one of the Speciation Trends Network sites. It was relocated from its original location at Guthrie Clinic (47-157-0047) to the Alabama Station to be a part of the NCORE monitoring network but approval was not granted by EPA in the summer of 2006 for this site to be a NCORE location. Since the Speciation Trends Network could only be moved once from the original location, the monitors could not be moved again to the new NCORE site.

On February 6th, 2011, the Shelby County Health Department began operating a Chemical Speciation Network of monitors at the Shelby Farms (47-157-0075) NCORE Air Monitoring Station.

On December 18th, 2012 at the request of Daniel Garver with Region 4 EPA and Dave Shelow with OAQPS, we had a conference call to determine if Speciation monitoring should continue at the Alabama Station. It was discussed that since Speciation is being monitored at the Shelby Farms NCORE station, the Alabama station would not be needed. By discontinuing the Speciation Network at the Alabama Air Monitoring Station, this will help to reduce costs.

This letter serves as a formal request from the Shelby County Health Department to receive permission from EPA to fulfill these objectives.

If you have any questions or comments, or if you require additional information, please contact me at (901) 222-8581.

Sincerely,

Judy Low, Acting Supervisor
Pollution Control/Air Monitoring Branch
Shelby County Health Department

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DIRECTOR

HELEN MORROW, M.D.
HEALTH OFFICER

Mark N. Luttrell, Jr.
Mayor
Shelby County

Stacy Harder
Environmental Engineer
Air, Pesticides & Toxics Management Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street, S.W.
Atlanta, GA 30303-8960

Dear Ms. Harder:

September 19, 2011

The Shelby County Health Department (SCHD) operates a continuous PM2.5 TEOM analyzer at 416 Alabama (47-157-0024). It began to malfunction on July 25, 2011. The analyzer would power up for a few seconds and then the CPU side of the instrument would shut down. The SCHD technician talked to a technician with Thermo Fisher Scientific, who stated that it could be any number of things wrong. The technician suggested that it should be shipped back to them in order to determine what the repair cost would be. The instrument was subsequently shut down.

This instrument was the first TEOM in Shelby County's air monitoring network, and was placed into operation on February 1, 1994. Over the years, this instrument has had numerous repairs. Staff technicians and the manufacturer performed these repairs. The SCHD currently does not have the resources to repair or replace the TEOM. And considering the age of this instrument, replacing it might be the most feasible avenue to take. Therefore, the SCHD is officially notifying EPA of the temporary status of the TEOM at 416 Alabama. As soon as funds are identified, action will be taken to rectify the situation.

Participating agencies of the Memphis, TN-MS-AR Metropolitan Statistical Area (MSA) have a signed Memorandum Of Agreement (MOA). This MOA formalizes and reaffirms 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). Currently, Crittenden County, Arkansas and DeSoto County, Mississippi have TEOMs in operation. In addition the SCHD has a TEOM at the NCore (47-157-0075) site.

If there are any questions or concerns, feel free to call me at (901) 222-9546.

Sincerely,

Edward C. Cain, Supervisor
Air Pollution Control
Air Monitoring Branch

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ATLANTA, GEORGIA 30303-8980

NOV 21 2011

NOV 29 2011

Mr. Edward C. Cain
Air Pollution Control
Air Monitoring Branch
Shelby County Health Department
814 Jefferson Avenue
Memphis, Tennessee 38105

Dear Mr. Cain:

This is in response to your letter dated September 19, 2011, requesting that the U.S. Environmental Protection Agency review a request to temporarily discontinue ambient air monitoring submitted by the Memphis and Shelby County Health Department (MSCHD). Specifically, MSCHD is proposing to temporarily discontinue fine particulate monitoring (PM_{2.5}) at the 416 Alabama (AQS ID 47-157-0024) state or local air monitoring station. Regulations for ambient air quality surveillance are found at 40 CFR Part 58.

EPA has reviewed this request and determined that the monitor is eligible for discontinuation under the minimum monitoring requirements for continuous PM_{2.5}, found in section 4.7.2 and Table D-5 of 40 CFR Part 58 Appendix D. The Memphis core based statistical area will continue to meet the continuous PM_{2.5} collocation monitoring requirements after this monitor is temporarily discontinued. It is our understanding that MSCHD plans to repair or replace the monitor as soon as funds allow. Therefore, EPA approves the temporary discontinuation of the monitor listed above.

Should you have any questions, please contact Doug Neeley at (404) 562-9097, or have your staff contact Stacy Harder at (404) 562-9042 or harder.stacy@epa.gov.

Sincerely,

Gwendolyn Keyes Fleming
Regional Administrator

cc: Mr. Jackie Waynick
TDEC, Chief of Environmental Technical Services

Archie Lee, EPA Region 4 SESD