

**Cadastral Layer (Parcels – Land Ownership)**

for

**Mississippi Department of Environment Quality  
(MDEQ)**

Submitted By:



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MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY



# THE STATE OF MISSISSIPPI



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# 1. Task Summary

## INTRODUCTION

Cadastral data describes the rights, interests, and authorizations in real property, including their geographic extent and changes over time. The geographic features of cadastral data include parcels, boundaries, corner locations, and cadastral reference systems. Cadastral data also has information about parcels including a unique parcel identifier, the value, ownership, tax classification, zoning, site and mailing address, and legal description of the real property.

In January 2021, the Mississippi Department of Environmental Quality (MDEQ) let a Work Order to develop a questionnaire to assess both the quality and availability of cadastral data on a county-by-county basis.

## 2. Methodology

We have obtained responses from counties in Mississippi in order to provide a consistent, timely, efficient, and economical assessment of the cadastral data in the State of Mississippi. Having accurate and easily accessible cadastral data will provide citizens with a time-saving and valuable tool that assists them in making appropriate determinations for solutions to boundary issues as well as making informed Economic Development decisions. One other benefit to accurate cadastral data will improve the 911 system. By having accurate street addresses, first responders will be able to arrive on scene much quicker.

The ultimate goal of the cadastral project is providing this data on the MDEM website which will provide online access to cadastral data by county for the public.

In general terms the purpose of these assessments was to conduct a cadastral assessment of all counties of Mississippi. The data acquired during the conduct of this cadastral assessment will serve as key evidence for the implementation of standards in order to develop an online cadastral database. The primary purposes of the cadastral assessments are as follows:

- Ensure all public, and private lands are accurately accounted for such as location, taxation, and type of ownership.
- To determine which counties, have digital maps

- How often parcels were reconciled to the land rolls
- When maps were originally converted to digital format, were surveys, plats and deeds used as part of the conversion process.
- Which counties utilize any type of GIS software.

During the cadastral assessment, each county in the State of Mississippi received a list of questions prepared by Tri-State Consulting. All of the responses received were recorded and entered into this report. Our assessment determined that different strategies are being utilized in many of the jurisdictions to manage their data.

### **DELIVERABLES**

Below is a list of the questions posed to each county for the Cadastral project.

#### Questionnaire Cadastral Project for MDEQ

1. What was the base map used to convert your original mylars to digital format?
2. What is the year of your latest orthophotography?
3. Have the current digital maps been adjusted to the latest orthophotography?
4. What format are your parcel maps in, AutoCAD, ArcGIS, other?
5. Who does your map maintenance? In house or contractor? If contractor, please provide contact information.
6. Who is your CAMA vendor? (Data Systems Management, Delta, Other)
7. When was the last time parcels in the map were reconciled to the land roll?
8. What were the results of the reconciliation?
9. Has an acreage divergence report been developed to compare tax parcel acreages from CAMA to GIS?
10. When the maps were originally converted to digital format, were surveys/plats/deeds used as part of the conversion process?
11. Do parcel lines go through structures when adjacent ownership is not the same owner?
12. Do Section Lines line up with the PLSS?
13. Do your digital tax parcels accurately represent the correct width for Right-of-Ways?

14. On a scale of 1 to 10 with 10 being excellent and 1 being extremely poor, how will does your map data match the physical and cultural features of the orthophotography?
15. Who maintains zoning data?
16. Should GIS data be available in your county, please provide a copy of the schema.
17. Does your county currently utilize any GIS software?

All of the responses received are made a part of the report.

### 3. Conclusion

In conclusion, there are No Best practices established for the different jurisdictions to manage their data. 25 counties maintain their maps using In-house personnel. The primary outside vendor used by the counties is Tri-State Consulting. They represent 50% of the state. Some counties have not had the latest orthophotography as far back as 2012 which will need to be re-flown. Only eight counties had it performed in 2020. One county had not reconciled to the land rolls since 2013. However, the majority did reconcile as recently as 2021.

Here are the major observations:

- All of the AutoCAD counties will need to be converted to GIS following a standard schema identifying desired layers and attributes. Currently there are 49 counties that utilize AutoCAD.
- Of the original digital conversions in the 1980's and 1990's, 17 counties are not aware of the type of base map that was used for the conversation. This can cause errors to occur during the reconciliation process.
- Acreage divergence reports should be done on every county on an annual basis.
- Parcel reconciliation should be done in every county per Department of Revenue standards annually.
- Majority of the counties latest orthophotography was performed between 2014 – 2017.
- We have a number of counties that parcel lines go through structures when adjacent ownership is not the same owner.

- Many counties will need assistance to ensure that their digital tax parcels accurately represent the correct width for Right-of-Ways. At least 10 counties responded with a NO.
- On a scale of 1 to 10 with 10 being excellent and 1 being extremely poor, how will does your map data match the physical and cultural features of the orthophotography? We had 7 counties who gave themselves a six or below and those counties will need to be re-mapped.
- Many counties had no response to the questions on “Who maintains Zoning Data”

A minimum set of attributes for land parcels and associated data needs to be established Statewide due to the different variations from county to county on how cadastral data is obtained and maintained.

Even after a standard is established, the initial process will be complex and a challenge to implement. For example, creating a single criterion for addresses and what information will be shared between jurisdictions.

Once a statewide minimum standard is established, we would recommend that substantial assistance would be needed to create and maintain these standards throughout the state for Cadastral Mapping.

Questionnaire Cadastral Project for MDEQ	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10	Question 11	Question 12	Question 13	Question 14	Question 15	Question 16	Question 17	
Adams	Digitized from mylars, not sure what base map was used	2018	No	ArcGIS	TSC, Inc as of 2021	Harris/Delta	2021	427	Yes	No	Yes	No	No	2	Planning Dept	N/A	Yes	
Alcorn	No digital maps	2017		AutoCad	TSC, Inc	Data Systems Management	2020	0	No					8			No	
Amite	Mylars digitized using Best Fit method to Orthoimagery	2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Attala	Mylars digitized using Best Fit method to Orthoimagery	2016	Yes	ArcGIS	Sanders & Associates	Data Systems			Yes	Subdivision Plats	No	No	Yes	9			No	
Benton	Mylars digitized using Best Fit method to Orthoimagery	2020	Yes	ArcGIS	TSC, Inc	Harris/Delta	2021	15	Yes	Subdivision Plats	No	Yes	Yes	8	Planning Dept		Yes	
Bolivar	Mylars digitized and fit to imagery flown for Corp of Engineers 400 scale maps for landuse, 100 scale was just digitized with no base map	2015/2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	74	Yes	Subdivision Plats	No	Yes	Yes	7	Planning Dept		No	
Calhoun																		
Carroll	Not sure	2014	Yes	ArcGIS	Sanders & Associates	Data Systems	2020		Yes	No	No	No	Yes	8			No	
Chickasaw	Mylars digitized using Best Fit method to Orthoimagery	2014	Yes	AutoCad	TSI, Inc	Harris/Delta	2020	1	Yes	Subdivision Plats	No	Yes	Yes	8	Planning Dept		No	
Choctaw	Mylars digitized using Best Fit method to Orthoimagery	2014	Yes	AutoCad	TSC, Inc	Data Systems Management	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Claiborne	2016 Ortho	2016	Yes	ArcGIS	PMA teenaperry1@gmail.com	Delta	2020	Minor Issues	Yes	Yes	No	Yes	Yes	8	N/A		Yes	
Clarke	Mylars digitized using Best Fit method to Orthoimagery	2017	Yes	AutoCad	In House	Delta	2021	10	Yes	No	No	No	Yes	8			No	
Clay																		
Coahoma	Digitized from mylars, not sure what base map was used	2018	No	ArcGIS	TSC, Inc as of 2021	Data Systems Management	2021	724	No	No	Yes	Yes	No	3	County Engineer		No	
Copiah	Mylars digitized using Best Fit method to Orthoimagery	2018	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	3	Yes	Subdivision Plats	No	Yes	Yes	8			Yes	
Covington	Mylars digitized using Best Fit method to Orthoimagery	2013	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Desoto	E-911 Road Maps	2019	Yes	ArcGIS	In House	Data Systems Management	2019		Yes	For most part	No	Yes	Yes	10			Yes	
Forrest	Mylars digitized using Best Fit method to Orthoimagery	2013	Yes	AutoCad	In House	Delta		6	Yes	No	No	No	Yes	8			No	
Franklin	Mylars digitized using Best Fit method to Orthoimagery	2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
George	Not sure	2012	Yes	AutoCad	TabMap	Delta				No	No	No	Yes				No	
Greene	Not sure	2017	Yes	AutoCad	TabMap	Delta			Yes	No	No	No	Yes				No	
Grenada	Mylars digitized using rectified imagery	2019/2020	Yes	AutoCad	TSC, Inc	Data Systems Management	2021	0	Yes	No	No	Yes	No	7	Planning & Zoning		No	
Hancock	Orthophotography	2017	Yes	ArcMap 10.8	In House	Data Systems Management	2021			Yes	At times	Mostly	At times	7	County Building & Zoning		Yes	
Harrison	Uncertain	2020	No	ArcGIS	In House	Harris/Delta	2021	0	Yes	Yes		Mostly	For the most part	5.5	Zoning Dept		Yes	
Hinds	N/A	2020	Yes	ArcMap 10.8	In House	N/A	2021	0	No	Yes	In places	Mostly	Yes	7	Zoning Dept		Yes	
Holmes	Mylars digitized using rectified imagery provided by County	2016	Yes	AutoCad	TSC, Inc (splits only)	Data Systems Management	2021	176	Yes	Subdivision Plats	No	Yes	No	7			No	



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Humphreys	Mylars digitized using Best Fit method to Orthoimagery	2014	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Yes	No	Yes	Yes	8			No	
Issaquena	Mylars digitized, not sure of base map	2017	Yes	ArcGIS	TSC, Inc	Harris/Delta	2021	2	Yes	No	No	Yes	No	6			No	
Itawamba	2013 Basemaps	2013	Yes	ArcGIS	In House	Delta	2021	0	To do list	Yes	very seldom	Yes	If recorded on public record		Only zoning in City of Fulton	GIS Data is available	No	
Jackson	Uncertain	2019	No	ArcGIS	In House	Patriot	2021	?	?	?	At times	Yes	?	5	?		Yes	
Jasper	Mylars digitized using Best Fit method to Orthoimagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Jefferson	Mylars digitized using Best Fit method to Orthoimagery	2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Jefferson Davis	Map 2013 Ortho	2016	No	ArcGIS	PMA teenaperry1@gmail.com	Delta	2014	Needs work	No	No	Yes	No	No	4			Yes	
Jones	Rectifide	2017	Yes	AutoCad	In House	Delta	2020	0	Yes	No	very seldom	Yes	Undetermined all widths are	7	No zoning in county		Yes	
Kemper	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7			No	
Lafayette	Mylars digitized using Best Fit method to Orthoimagery	2019	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	2	Yes	Yes	No	Yes	Yes	9	Planning Dept		No	
Lamar	Best Fit to Orthoimagery	2018	Yes	ArcGIS	In House	Harris/Delta	2020	0	Yes	No	No	Yes	Yes	8	Planning Dept		Yes	
Lauderdale	Mylars digitized using Best Fit method to Orthoimagery	2014	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	7	County Planning Dept.		No	
Lawrence	Mylars digitized using rectified imagery	2018	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	1	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Leake	Mylars digitized using rectified imagery	2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	1	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Lee	Maps were Best Fit to 2019 Orthophotograpny	2019	Yes	AutoCad	In House	Delta		11	Yes	No	No	No	Yes	9			Yes	
Leflore	Mylars digitized using rectified imagery	2016	Yes	AutoCad	TSC, Inc	Data Systems Management	2021	0	Yes	No	No	Yes	Yes	7			Yes	
Lincoln																		
Lowndes	Maps were Best Fit to 2018 Orthophotograpny	2018	Yes	AutoCad	In House	Delta	2021	0	Yes	Subdivision Plats	No	No	Yes	9			Yes	
Madison	Orthophotography and scanned versions of mylars were used to convert to digital format	2018	Yes	AutoCad & ArcGIS	In House	Delta	2021	0	Yes	Subdivision Plats	very seldom	Yes	Yes	9	County GIS Dept	Included	Yes	
Marion	Mylar Map	2020	Yes	ArcGIS	In House	Delta	2021	0	Yes	Yes	Yes	Yes	Yes	9	E911 Office		Yes	
Marshall	Map Tech 1997	2016	Yes	AutoCad	TSI, Inc	Delta	2020		No		Yes, sometimes	Yes	Yes	9	Planning & Zoning		No	
Monroe	Mylars digitized using Best Fit method to Orthoimagery	2020	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	9	City		No	
Montgomery	Mylars digitized using rectified imagery	2014	Yes	AutoCad	TSC, Inc	Data Systems Management	2021	0	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Neshoba	Mylars digitized using rectified imagery	2014	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7	Permit Office		Yes	
Newton	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7			No	
Noxubee	Mylars digitized using rectified imagery	2014	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7			No	

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Oktibbeha	Mylars digitized using rectified imagery	2014	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	7	Planning Dept		No	
Panola	Maps were Best Fit to 2016 Orthophotography	2016	Yes	AutoCad	Robert Box	Data Systems Management	2020	160	Yes	No	No	No	Yes	9				
Pearl River	Orth that was current for 2003 when conversion occurred	2017	No	ArcGIS	In House	Delta	2021	220	Yes	No	Yes, in some areas	Not always	No	5	No zoning in county		Yes	
Perry	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7			No	
Pike	2005 Digital Ortho	2018	Yes	ArcGIS	In House	Delta	2021	0	Yes	Yes	No	Yes	Yes	10			Yes	
Pontotoc	Not sure	2014	Yes	ArcGIS	In House	Delta	2021	60	Yes	No	No	No	Yes	8			Yes	
Prentiss	Mylars digitized using rectified imagery	2018	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	9	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Quitman	2010 Aerial Flown by EagleForestry Services Monticello, Ar	2019	Yes	ArcGIS	Smith & Weiland Surveyors and Engineers 662-627-4833	Data Systems Management	2021	0	Yes	Yes	No	Yes	No	9	Mapping Contractor	Shapefile mirroring the AS400	No	
Rankin	1999 B/W unrectified aerial photography	2020	Yes	AutoCad	In House	Delta	2021	0	Yes	Yes	Yes, in some areas	Yes	No	9	CMPDD		Yes	
Scott	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	7	Code & Zone Office		No	
Sharkey	Mylars digitized using rectified imagery	2013	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	No	7			No	
Simpson	E-911 Road Maps	2013	Yes	AutoCad	In House	Delta	2021	0	Yes	Yes	Yes	Yes	Yes	9			Yes	
Smith	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	8	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Stone	2006 Photography (post Katrina Flight)	2017	Yes	ArcGIS	In House	Delta	2013		No	When needed	Yes	Yes	Yes	9	City Zoning not on map		Yes	
Sunflower	Mylars digitized using rectified imagery	2016	Yes	AutoCad	Technical Appraisal (Deeds)/TSC, Inc (Digital data)	Harris/Delta	2021	80	Yes	No	No	Yes	Yes	7			No	
Tallahatchie	Best Fit to Orthoimagery	2014	Yes	AutoCad	Technical Appraisal (Deeds)/TSC, Inc (Digital data)	Data Systems Management	2021	273	Yes	Subdivision Plats	No	Yes	Yes	8			No	
Tate	Orthophotography	2020	Yes	AutoCad	TSI, Inc	Data Systems Management	2021	0	No	Yes	A very small percent	Yes	Best of knowledge	8	Planning Commission		No	
Tippah	Best Fit to Orthoimagery	2015	Yes	ArcGIS	In House	Harris/Delta	2021	0	Yes	No	No	Yes	Yes	8	No		Yes	
Tishomingo	Not sure	2015	Yes	ArcGIS	In House	Delta	2021	700	no	Yes	unknown	Yes	About 60%	8	Cities		Yes	
Tunica	Complied using deeds and plats using Orthoimagery	2013	Yes	AutoCad	Macon Mapping (Deeds)/TSC, Inc (Digital data)	Harris/Delta	2020	53	Yes	Yes	No	Yes	Yes	9	County Engineer		No	
Union	Not sure	2014	Yes	ArcGIS	In House	Delta	2020	0	Yes	unsure	Occasionally	Unsure	Unknown	8	Don't know		Yes	
Walthall	Best Fit to Orthoimagery	2016	Yes	ArcGIS	TSC, Inc	Harris/Delta	2021	22	Yes	Subdivision Plats	No	Yes	Yes	9			No	
Warren	2012 Dital Ortho	2017	Yes	ArcGIS	In House	Delta	2021	0	Yes	Yes	No	Yes	Yes	10	Unknown		Yes	
Washington																		
Wayne	Mylars digitized using rectified imagery	2017	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	2	Yes	Subdivision Plats	No	Yes	Yes	7	County Engineer		No	

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Webster																		
Wilkinson	Mylars digitized using rectified imagery	2016	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	8	Yes	Subdivision Plats	No	Yes	Yes	7			No	
Winston	Mylars digitized using rectified imagery	2014	Yes	AutoCad	TSC, Inc	Data Systems Management	2021	0	Yes	Subdivision Plats	No	Yes	Yes	7	Planning Dept		No	
Yalobusha	ASCS 1979	2020	Yes	ArcGIS	In House	Data Systems Management	2017	0	Yes	Yes	Occasionally	Yes	Yes	9	None		Yes	
Yazoo	Mylars digitized using rectified imagery	2013	Yes	AutoCad	TSC, Inc	Harris/Delta	2021	0	Yes	Subdivision Plats	No	Yes	Yes	7	CMPDD		No	