APPENDIX G
WETLAND AND OTHER WATERS ASSESSMENT REPORT

WETLAND AND OTHER WATERS ASSESSMENT REPORT

Bob Anthony Parkway Relocation

Madison, Hinds, and Rankin Counties, MS

Project Number FBLD-6945-00(013)LPA

FMS Number 108635-800000

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MDOT
MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Executive Summary

The Mississippi Department of Transportation (MDOT) is proposing to replace Spillway Road which is currently located on and adjacent to the Ross Barnett Reservoir dam near Jackson, Mississippi. The proposed road will be constructed on new alignment to the south of the existing roadway for approximately 3.4 miles between Harbor Drive in Ridgeland, MS and North Shore Parkway in Brandon, MS. The project is located in Madison, Hinds, and Rankin Counties (Sections 33, 34 & 35 of Township 7N, Range 2E; Section 1, 2, and 12 of Township 6N Range 2E).

A previous site delineation for the project was conducted by Cypress Environment and Infrastructure from July 11, 2023, through July 13, 2023, and identified 21 wetlands (6.01 acres) and five other waters (2,113 linear feet [LF]). A follow-up site inspection, which is described in this report, identified an additional 13 wetlands (3.60 acres), 4 open waters (7.36 acres), and 4 other waters (784 LF) in the project site. Wetlands were classified as palustrine emergent, palustrine forested, and palustrine unconsolidated bottom. Other waters were classified as perennial, intermittent, and ephemeral. These areas should be considered potentially jurisdictional until concurrence is given by a representative of the U.S. Army Corps of Engineers (USACE).

Two alternatives (Alternative B and Alternative E2) are under consideration for the proposed project. Proposed work for Alternative B would result in **6.68 acres of permanent wetland impacts**, **3.43 acres of permanent open water impacts,** and **2,653 linear feet of permanent impacts to other waters.** Proposed work for Alternative E2 would result in **5.78 acres of permanent wetland impacts, 6.70 acres of permanent impacts to other waters,** and **2,575 linear feet of permanent impacts to other waters.**

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Acronyms and Abbreviations

CA	Channel Assessment, data point location
CWA	Clean Water Act, Section 404
DP	Data Point
GIS	Geographic Information System
HUC	Hydrologic Unit Code
JD	Jurisdictional Determination
LF	Linear Feet
MARIS	Mississippi Automated Response Information System
MDOT	Mississippi Department of Transportation
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
OW	Other Waters of the U.S.
PEM	Palustrine Emergent
PFO	Palustrine Forested
PSS	Palustrine Scrub-Shrub
RHA	Safe River and Harbors Act, Section 10
ROW	Right-Of-Way
SR	State Route
Sta.	Station Number
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Chapter 1. Introduction

The purpose of this report is to identify and describe potentially jurisdictional areas such as wetlands and other waters of the U.S. within the project corridor for the purposes of regulation under Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Safe River and Harbors Act (RHA). A wetland and other water delineation was completed by Cypress Environment and Infrastructure from July 11, 2023, through July 13, 2023. This report describes a supplemental wetland and other water delineation that was conducted by Joe Rujawitz of Garver during a site visit on August 15, 2023, to inspect areas that were excluded during the original delineation. This report facilitates MDOT's efforts to document wetland and other waters boundary determinations for review by regulatory authorities and to avoid or minimize impacts to wetlands and other waters during the design process.

The proposed roadway relocation begins near the intersection of Spillway Road and Harbor Drive in Ridgeland, MS and is located on new alignment for approximately 3.4 miles before rejoining with Spillway Road near its intersection with North Shore Parkway in Brandon, MS (Sections 33, 34 & 35 of Township 7N, Range 2E; Section 1, 2, and 12 of Township 6N Range 2E). See Figures 1-4 for more detailed location information. Work will take place at 9 sites (Figure 3) to construct the road relocation.

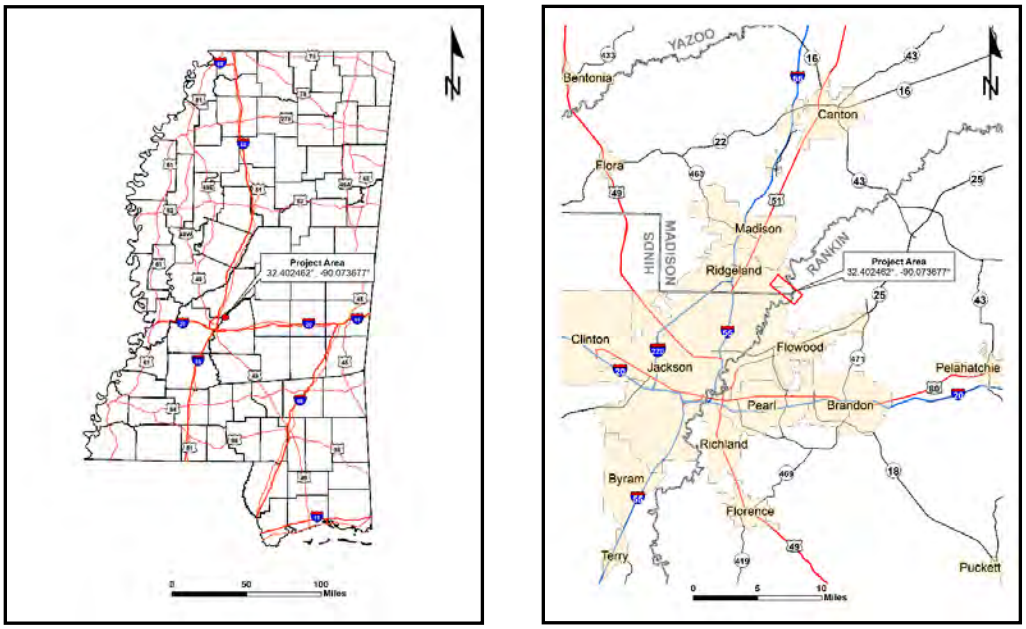

Figure 1. State and County Maps.

Figure 2. 2023 Aerial Photography for Project Area.

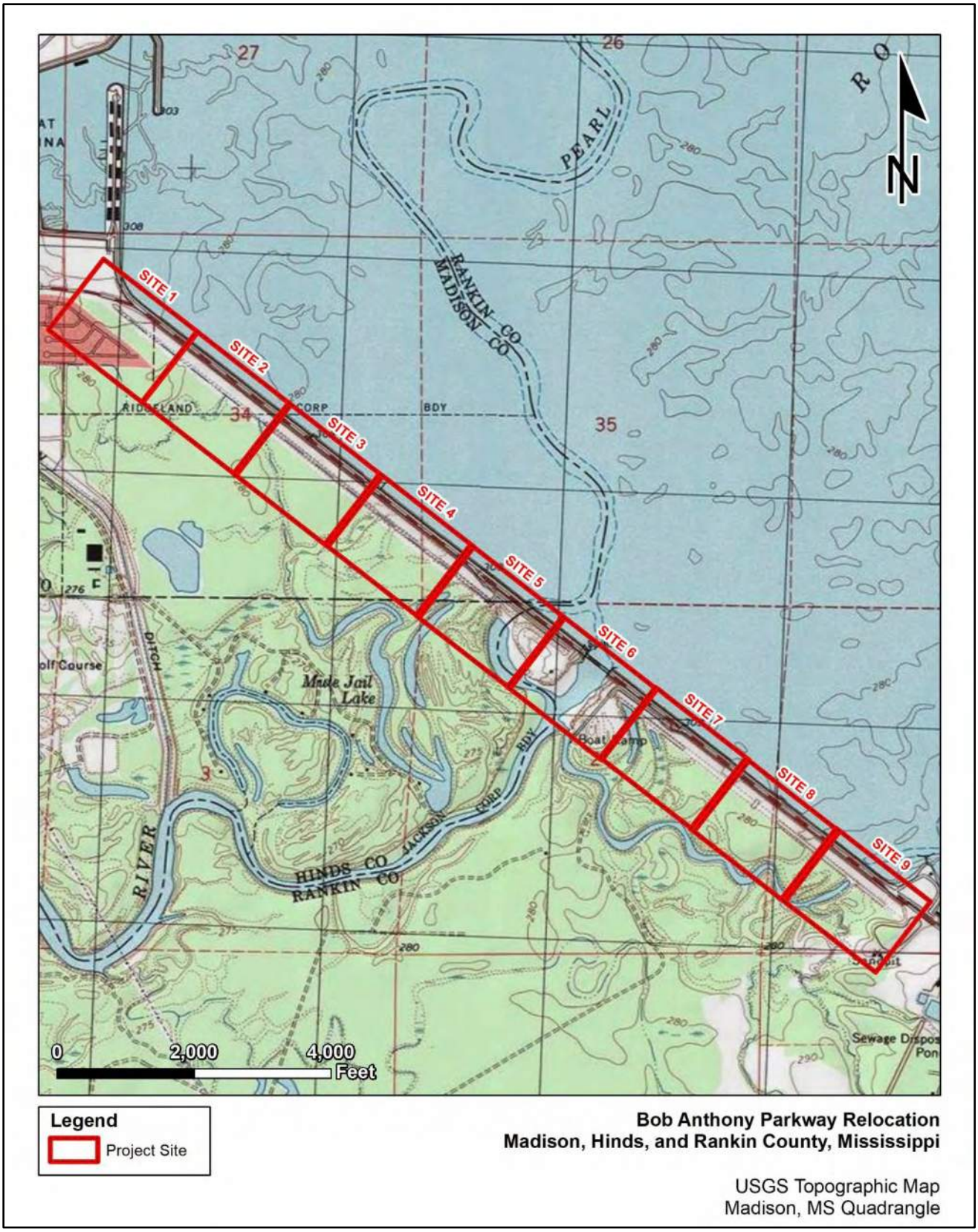

Figure 3. USGS Topographic Map for Project Area

Chapter 2. Methods

This chapter summarizes the methods used to comply with MDOT, federal, state, and local guidance. Please see Appendix A for further details of methods used in this report.

Prior to initiation of field work, geographic information system (GIS- ArcMap 10.8 and ArcGIS Pro 3.1.2) software was used to compile known hydrologic, geologic, and other relevant information on the study area. Information was gathered from U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory Maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey Maps, U.S. Geological Survey (USGS) Digital Elevation Model, Mississippi Automated Response Information System (MARIS) data, and aerial imagery produced by the 2023 USDA National Agriculture Imagery Program. See Appendix C for maps showing soils, topography, and the wetland inventory. A site delineation for the project was conducted by Cypress Environment and Infrastructure from July 11, 2023, through July 13, 2023. Garver conducted an additional site visit on August 15, 2023, to record relevant data on additional potentially jurisdictional areas for the purposes of CWA permitting.

Wetland determinations were made using observable vegetation, hydrology, and soils in accordance with the routine approach described in the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (2010). Wetland and upland areas are described in detail on attached regional supplement datasheets. Other waters (OW) are described on OW Field Data Sheet forms found in Attachment B. Wetland boundaries and locations were not professionally surveyed but were located by a hand-held GPS device (Trimble Geo 7x sub-meter unit).

Regional supplement data sheets were completed at each data point (DP) location; however, not all data points represent wetlands. At each data point location, soils, vegetation, and hydrology were described and representative photographs were taken. Areas which met all three hydric criteria are labeled with a “W”. Other Water field data sheets were completed for each tributary reach from project boundary to boundary and not for a true channel reach length. Photographs were taken up and down gradient at each OW assessment site.

After field work was completed, data was entered into GIS software, potentially jurisdictional areas were mapped, and areas and lengths were calculated. Preliminary plans were overlaid on maps to calculate impacts to potentially jurisdictional areas.

Chapter 3. Existing Conditions

The previous site delineation conducted by Cypress Environment and Infrastructure identified 21 wetlands (6.01 ac) and 6 other waters (2,488 LF). Based upon the site inspections of the supplemental project area, an additional 13 wetlands (3.60 acres), 4 open waters (7.36 acres), and 4 other waters (784 LF) were identified. All identified features are considered potentially jurisdictional. All potential jurisdictional areas should be considered preliminary prior to confirmation by the USACE Regulatory Branch. Findings are discussed in Tables 1 and 2. The conditions described below are true for the area surveyed by Garver and do not necessarily represent the conditions of the entire project.

Landscape Setting

Undeveloped terrain in the project area is predominantly maintained right-of-way, bottomland forest, and watercourses. The project is located in the Southern Mississippi Valley Loess (134) Major Land Resource Area portion of the South Atlantic and Gulf Slope Cash Crops, Forest, and Livestock Region (LRR P) as described by the Natural Resources Conservation Service. Dominant land uses within the study corridor are undeveloped bottomland forest, maintained right of way, watercourses, and roadways. Appendix C includes Soil Survey Data, Elevation Maps, and Land Use Maps.

Hydrology

The climatic condition in the project area during the August 15, 2023, site visit was considered drier than normal by the USACE Antecedent Precipitation Tool (see Appendix D). The nearest weather station is located at the Jackson International Airport. Weather data for the Starkville area for the month of August 2023 indicated clear weather on the day of the delineation. Major tributaries in the project area exhibited low flow during the delineation and were under the Ordinary High Water Marks (OHWMs).

Vegetation

Plant communities in the project area included wooded riparian areas and forested wetlands dominated by Chinese tallow (*Triadica sebifera*), sugarberry (*Celtis laevigata*), silver maple (*Acer*

saccharinum), bald cypress (*Taxodium distichum*), giant cane (*Arundinaria gigantea*), Indian wood-oats (*Chasmanthium latifolium*), and lizards tail (*Saururus cernuus*). Emergent wetlands within maintained right of way were dominated by fall panic grass (*Panicum dichotomiflorum*), Virginia buttonweed (*Diodia virginiana*), southern cutgrass (*Leersia hexandra*), dotted smartweed (*Persicaria punctata*), broad-lead cattail (*Typha latifolia*), and Vasey's grass (*Paspalum urvillei*). Maintained fields were dominated by prickly lettuce (*Lactuca serriola*), Bahia grass (*Paspalum notatum*), Virginia buttonweed, yellow foxtail (*Setaria pumila*), Bermuda grass (*Cynodon dactylon*), and Japanese-clover (*Kummerowia striata*). See Wetland Determination Data Forms in Appendix B for a detailed description of vegetative species within the delineation boundary.

Soils

Soils found in the supplemental project area are mapped as Cascilla-Chenneby association, Cascilla-Calhoun association, and Cascilla-Arkabutla association (frequently flooded). According to USDA NRCS, all soil units are classified as hydric. For more information, see the data sheets in Appendix B and Custom Soil Report in Appendix C.

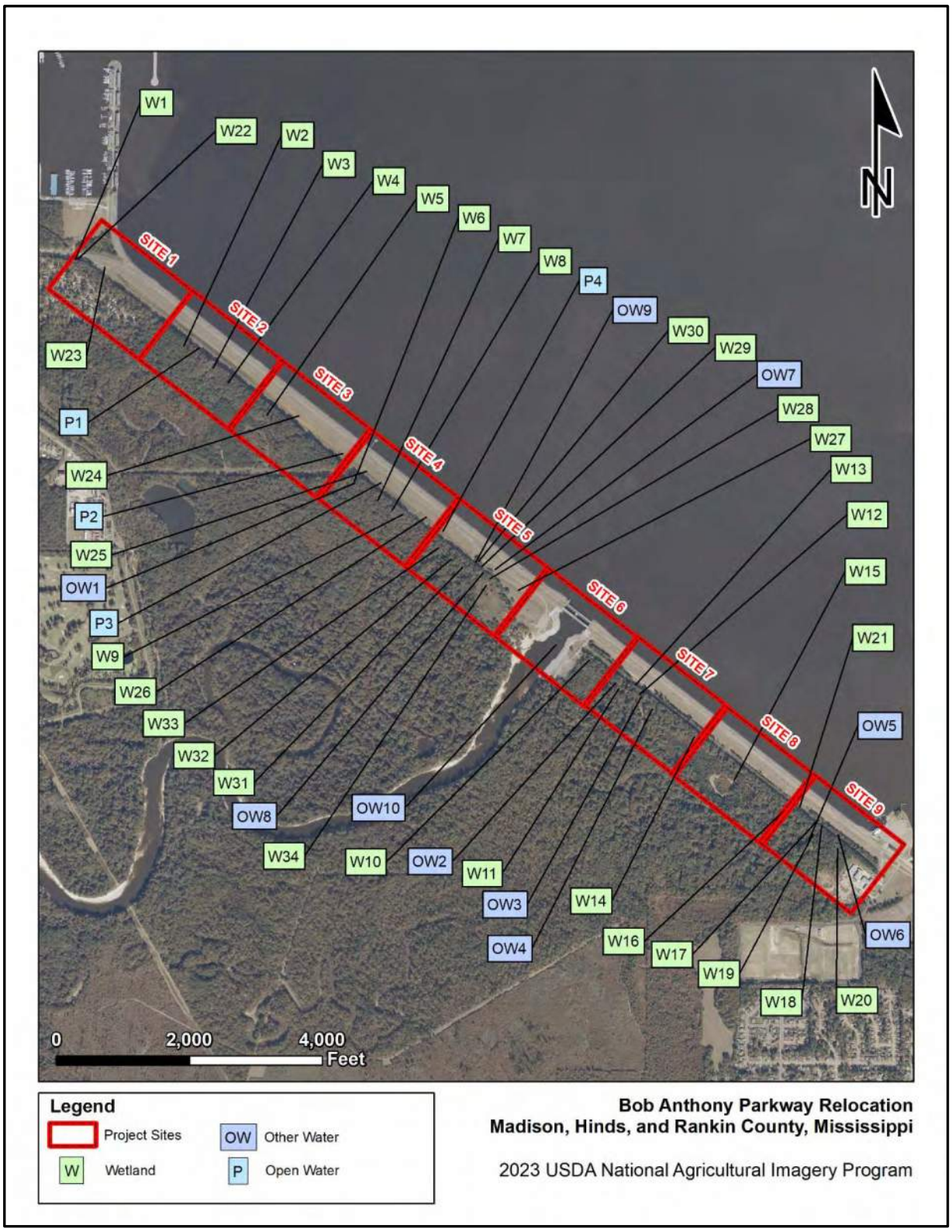

Figure 4. Location of potentially jurisdictional areas.

Chapter 4. Impacts

The purpose of the proposed project is to relocate Bob Anthony Parkway on new alignment to the south of Ross Barnett Reservoir to mitigate the safety hazards currently present on Spillway Road. Impacts by the project include fill required to construct the roadway and embankment, clearing within the ROW, and shading by the proposed bridge over Pearl River. Impacts to only the likely jurisdictional aquatic features in the supplemental project area delineated by Garver on August 15, 2023, are described below. For complete impacts to all identified aquatic features within the entire project area, including those identified during the delineation conducted by Cypress Environment and Infrastructure, see Table 1 and Table 2 below.

Site 1

Two emergent wetlands (W22 and W23) and one unconsolidated bottom wetland, or pond, (P1) are located within Site 1. The proposed improvements associated with Alternative B will fill 0.04 acre of W22, 0.21 acres of W23, and 2.06 acre of P1 within the right of way. The proposed improvements associated with Alternative E will fill 0.04 acre of W22, 0.21 acres of W23, and 4.52 acre of P1 within the right of way.

Site 2

One pond (P1) extends from Site 1 into Site 2. No further wetland or other water features were identified in Site 2. See Site 1 for a description of impacts to P1.

Site 3

One emergent wetland (W24) and two ponds (P1 and P2) are located in Site 3. The proposed improvements associated with Alternative B will fill 0.54 acre of P2 within the right of way. Alternative B will not impact W24. The proposed improvements associated with Alternative E will fill 0.04 acre of W24 and 1.01 acre of P2 within the right of way. See Site 1 for a description of impacts to P1.

Site 4

Three ponds (P2, P3, and P4), two emergent wetlands (W25 and W26), and one forested wetland (W33) are located in Site 4. W26 is comprised of several fringes of emergent wetland along P4 and does not constitute one continuous wetland. The proposed improvements associated with Alternative B will fill 0.63 acre of P3, 0.02 acre of W25, 0.20 acre of P4, and 0.06 acre of

W26 within the right of way. The proposed improvements associated with Alternative E will fill 0.94 acre of P3, 0.04 acre of W25, 0.23 acre of P4, and 0.08 acre of W26 within the right of way. See Site 3 for a description of impacts to P2 and Site 5 for a description of impacts to W33.

Site 5

One pond (P4), four emergent wetlands (W26, W27, W29, and W34), and five forested wetlands (W28, W30, W31, W32, and W33) are located in Site 5. The proposed improvements associated with either alternative will either shade or clear 0.91 acre of W28, 0.07 acre of W31, 0.09 acre of W32, 0.12 acre of W33, and 0.07 acre of W34 due to the construction of the proposed bridge. W27, W29, and W30 will not be impacted by either alternative. See Site 5 for a description of impacts to P4 and W26.

Two ephemeral streams (OW7 and OW9) and one perennial stream (OW8) are also located in Site 5. Approximately 5 linear feet of OW7, 252 linear feet of OW8, and 56 linear feet of OW9 will be shaded by the construction of the proposed bridge for either alternative.

Site 6

Pearl River (OW10), a traditional navigable water of the U.S., is located in Site 6 and flows south through the project area. The proposed improvements will impact 180 linear feet of OW10 through shading from the proposed bridge for either alternative.

Table 1. Data Point Summary Table

Data Point	Wetland ID#	Site # OR Worksheet #	Latitude	Longitude	Approximate Station Number*	Section-Township-Range	Area from ROW to ROW Alt B / E (ac)	Cowardin Classification	Impact
DP1[1]	W1	Site 1	32.411467°	-90.088790°	14+05	S34, T7N, R2E	0.03 / 0.03	PEM	0.03 ac filled within ROW for either alternative.
DP2[1]		Site 1	32.411300°	-90.088610°	14+80	S34, T7N, R2E		Upland	
DP3[1]	W5	Site 3	32.405347°	-90.079452°	51+37	S34, T7N, R2E	0.38 / 0.18	PFO	0.38 ac filled within ROW for Alternative B; 0.18 ac filled within ROW for Alternative E.
DP4[1]	W2	Site 2	32.407915°	-90.083433°	35+95	S34, T7N, R2E	0.02 / 0.01	PFO	0.02 ac filled within ROW for Alternative B; 0.01 ac filled within ROW for Alternative E.
DP5[1]		Site 2	32.407880°	-90.083010°	37+00	S34, T7N, R2E		Upland	
DP6[1]	W3	Site 2	32.406492°	-90.081256°	44+40	S34, T7N, R2E	0.63 / 0.36	PFO	0.63 ac filled within ROW for Alternative B; 0.36 ac filled within ROW for Alternative E.
DP6[12]	W4	Site 2	32.407040°	-90.081986°	41+40	S34, T7N, R2E	0.52 / 0.22	PFO	0.52 ac filled within ROW for Alternative B; 0.22 ac filled within ROW for Alternative E.
DP7[1]		Site 2	32.406680°	-90.081890°	42+42	S34, T7N, R2E		Upland	
DP8[1]		Site 3	32.405120°	-90.079520°	51+60	S34, T7N, R2E		Upland	
DP9[1]		Site 3 & 4	32.402940°	-90.075760°	65+76	S34, T7N, R2E		Upland	
DP10[1]	W6	Site 4	32.402404°	-90.075018°	68+71	S34, T7N, R2E	0.14 / 0.13	PFO	0.14 ac filled within ROW for Alternative B; 0.13 ac filled within ROW for Alternative E.
DP11[1]		Site 4	32.402250°	-90.075020°	69+05	S34, T7N, R2E		Upland	
DP12[1]	W7	Site 4	32.401704°	-90.073898°	73+00	S34, T7N, R2E	0.28 / 0.28	PFO	0.28 ac filled within ROW for either alternative.
DP12[12]	W8	Site 4	32.401238°	-90.073201°	75+75	S34, T7N, R2E	0.06 / 0.06	PFO	0.06 ac filled within ROW for either alternative.
DP12[12]	W9	Site 4	32.401055°	-90.072615°	77+62	S34, T7N, R2E	0.14 / 0.14	PFO	0.14 ac filled within ROW for either alternative.
DP13[1]		Site 4	32.399950°	-90.071500°	82+80	S2, T6N, R2E		Upland	
DP14[1]	W10	Site 6	32.395159°	-90.063507°	113+00	S2, T6N, R2E	0.16 / 0.16	PFO	0.16 ac of W10 cleared and/or shaded by bridge construction.
DP15[1]		Site 6 & 7	32.394730°	-90.062960°	115+25	S2, T6N, R2E		Upland	
DP16[1]	W11	Site 6 & 7	32.394262°	-90.062111°	118+35	S2, T6N, R2E	0.19 / 0.19	PFO	0.19 ac of W11 cleared and/or shaded by bridge construction.
DP16[12]	W12	Site 7	32.393489°	-90.060904°	123+00	S2, T6N, R2E	0.40 / 0.40	PFO	0.40 ac of W12 cleared and/or shaded by bridge construction.
[1]	W13	Site 7	32.394094°	-90.061133	121+15	S2, T6N, R2E	0 / 0	PEM	Project will not impact W13.
DP17[1]	W14	Site 7 & 8	32.392042°	-90.058329°	132+55	S2, T6N, R2E	0.26 / 0.26	PFO	0.26 ac filled within ROW for either alternative.
[1]	W15	Site 8	32.390261°	-90.056346°	141+35	S2, T6N, R2E	0.04 / 0.04	PFO	0.04 ac filled within ROW for either alternative.
DP18[1]		Site 7 & 8	32.391560°	-90.058200°	133+90	S2, T6N, R2E		Upland	
DP19[1]		Site 8	32.390790°	-90.056420°	140+00	S2, T6N, R2E		Upland	
DP20[1]	W16	Site 8	32.389064°	-90.056346°	148+35	S1, T6N, R2E	0.43 / 0.43	PFO	0.43 ac filled within ROW for either alternative.
DP21[1]		Site 9	32.388060°	-90.052850°	154+70	S1, T6N, R2E		Upland	
DP22[1]		Site 9	32.388340°	-90.052190°	155+85	S1, T6N, R2E		Upland	
DP23[1]	W17	Site 9	32.387863°	-90.050944°	160+15	S1, T6N, R2E	0.76 / 0.60	PFO	0.76 ac filled within ROW for Alternative B; 0.60 ac filled within ROW for Alternative E.
[1]	W18	Site 9	32.388356°	-90.051957°	151+35	S1, T6N, R2E	0.09 / 0.09	PEM	0.09 ac filled within ROW for either alternative.
[1]	W19	Site 9	32.388074°	-90.052338°	156+00	S1, T6N, R2E	0.45 / 0.43	PFO	0.45 ac filled within ROW for Alternative B; 0.43 ac filled within ROW for Alternative E.
DP24[1]	W20	Site 9	32.387506°	-90.051243°	159+90	S1, T6N, R2E	0.12 / 0.12	PFO	0.12 ac filled within ROW for either alternative.
DP25[1]		Site 9	32.386570°	-90.049520°	166+10	S1, T6N, R2E		Upland	

Data Point	Wetland ID#	Site # OR Worksheet #	Latitude	Longitude	Approximate Station Number*	Section-Township-Range	Area from ROW to ROW Alt B / E (ac)	Cowardin Classification	Impact
[1]	W21	Site 7 & 8	32.389144°	-90.053063°	151+90	S1, T6N, R2E	<0.01 / 0	PEM	Less than 0.01 ac filled within ROW for Alternative B; Alternative E will not impact W21.
GAR-DP 1	W22	Site 1	32.411472°	-90.088769°	14+15	S34, T7N, R2E	0.04 / 0.04	PEM	0.04 ac filled within ROW for either alternative.
GAR-DP 2		Site 1	32.411455°	-90.088761°	14+17	S34, T7N, R2E		Upland	
GAR-DP 3	W23	Site 1	32.411312°	-90.087676°	17+65	S34, T7N, R2E	0.21 / 0.21	PEM	0.21 ac filled within ROW for either alternative.
GAR-DP 4		Site 1	32.411333°	-90.087665°	17+65	S34, T7N, R2E		Upland	
GAR-DP 5	W24	Site 3	32.404996°	-90.077638°	56+65	S34, T7N, R2E	0 / 0.02	PEM	Alternative B will not impact W24; 0.02 ac filled within ROW for Alternative E.
GAR-DP 6		Site 3	32.405035°	-90.077661°	56+50	S34, T7N, R2E		Upland	
GAR-DP 7		Site 4	32.402942°	-90.074501°	68+90	S34, T7N, R2E		Upland	
GAR-DP 8	W25	Site 4	32.402915°	-90.074526°	68+90	S34, T7N, R2E	0.02 / 0.04	PEM	0.02 ac filled within ROW for Alternative B; 0.04 ac filled within ROW for Alternative E.
GAR-DP 8[2]	W26	Site 4 & 5	32.401228°	-90.071832°	79+20	S35, T7N, R2E	0.06 / 0.08	PEM	0.06 ac filled within ROW for Alternative B; 0.08 ac filled within ROW for Alternative E.
GAR-DP 9		Site 6	32.397339°	-90.065958°	102+15	S2, T6N, R2E		Upland	
GAR-DP 10	W27	Site 5 & 6	32.397341°	-90.065977°	102+10	S2, T6N, R2E	0 / 0	PEM	Project will not impact W27
GAR-DP 11	W28	Site 5	32.397483°	-90.067581°	97+85	S2, T6N, R2E	0.91 / 0.91	PFO	0.91 ac of W28 cleared and/or shaded by bridge construction for either alternative.
GAR-DP 12		Site 5	32.397502°	-90.067536°	97+80	S2, T6N, R2E		Upland	
GAR-DP 11[2]	W29	Site 5	32.399103°	-90.068930°	91+00	S2, T6N, R2E	0 / 0	PEM	Project will not impact W29.
GAR-DP 11[2]	W30	Site 5	32.399256°	-90.068958°	90+60	S2, T6N, R2E	0 / 0	PFO	Project will not impact W30.
GAR-DP 13	W31	Site 5	32.399010°	-90.069626°	89+40	S2, T6N, R2E	0.07 / 0.07	PFO	0.07 ac filled within ROW for either alternative.
GAR-DP 14		Site 5	32.399068°	-90.069629°	89+30	S2, T6N, R2E		Upland	
GAR-DP 15	W32	Site 5	32.399197°	-90.070107°	87+80	S2, T6N, R2E	0.09 / 0.09	PFO	0.09 of W32 cleared and/or shaded by bridge construction for either alternative.
GAR-DP 16		Site 5	32.399179°	-90.070079°	87+95	S2, T6N, R2E		Upland	
GAR-DP 15[2]	W33	Site 4 & 5	32.399695°	-90.070647°	85+40	S35, T7N, R2E	0.12 / 0.12	PFO	0.12 ac of W33 cleared and/or shaded by bridge construction for either alternative.
GAR-DP 11[2]	W34	Site 5	32.397511°	-90.067820°	97+20	S2, T6N, R2E	0.07 / 0.07	PEM	0.07 ac of W34 cleared and/or shaded by bridge construction for either alternative.

[1]Delineated by Cypress Environment and Infrastructure (CEI). Features delineated by CEI can be found in the Compiled Maps in Appendix E.
[2]While DP was not collected directly in specified wetland, the point is generally representative as area had similar hydrology, vegetation, and soils to adjoining wetland.
DP- Data point- collection point for sampling data for wetland assessment.
W- Wetland- areas described as wetlands.
PEM- Palustrine Emergent; PFO- Palustrine Forested.
*Station Numbers are approximate. Estimated from centerline stationing of Alternative B.

Wetland Summary:	**Total Alt. B Present (acres)**	**Total Alt. E Present (acres)**	**Permanent Fill-Alternative B (acres)**	**Clear and/or Shade-Alternative B (acres)**	**Permanent Fill-Alternative E (acres)**	**Clear and/or Shade-Alternative E (acres)**
Forested	6.16	5.20	4.30	1.87	3.33	1.87
Emergent	0.52	0.58	0.46	0.07	0.51	0.07
Total	**6.68**	**5.78**	**4.76**	**1.94**	**3.84**	**1.94**

Table 2. Channel Assessment Table

CA #	Site #/ OR Worksheet #	Latitude	Longitude	Section-Township-Range	Sta.*	Type	Length in Project Area (feet)	Channel Width (feet)	Name	Impact
OW 1[1]	Site 4	32.402404°	-90.074962°	S34, T7N, R2E	68+90	I	164	15	Unnamed	162 LF piped within ROW for Alternative B; 153 LF piped within ROW for Alternative E
OW 2[1]	Site 6 & 7	32.394360°	-90.062121°	S2, T6N, R2E	118+15	P	380	8	Unnamed	208 LF piped within ROW for either alternative.
OW 3[1]	Site 7	32.393329°	-90.061035°	S2, T6N, R2E	123+09	P	438	10	Unnamed	370 LF shaded by bridge construction.
OW 4[1]	Site 7	32.393194°	-90.060238°	S2, T6N, R2E	125+32	E	375	20	Unnamed	293 LF piped within ROW for Alternative B; 292 LF piped within ROW for Alternative E
OW 5[1]	Site 9	32.388059°	-90.052322°	S1, T6N, R2E	156+07	P	417	10	Pelahatchie Creek	417 LF piped within ROW for Alternative B; 349 LF piped within ROW for Alternative E
OW 6[1]	Site 9	32.387896°	-90.051052°	S1, T6N, R2E	159+80	P	714	4	Unnamed	710 LF piped within ROW for either alternative.
OW 7	Site 5	32.398833°	-90.068169°	S2, T6N, R2E	93+40	E	150	3	Unnamed	5 LF shaded by bridge construction for either alternative.
OW 8	Site 5	32.398963°	-90.068826°	S2, T6N, R2E	91+50	P	377	8	Unnamed	252 LF shaded by bridge construction for either alternative.
OW 9	Site 5	32.399102°	-90.069104°	S2, T6N, R2E	90+55	E	77	3	Unnamed	56 LF shaded by bridge construction for either alternative.
OW 10	Site 6	32.396582°	-90.064492°	S2, T6N, R2E	107+35	P	180	189	Pearl River	180 LF shaded by bridge construction for either alternative.

[1]Delineated by Cypress Environment and Infrastructure (CEI). Features delineated by CEI can be found in the Compiled Maps in Appendix E.
CA- Channel Assessment- Channel Assessment point location
Type:
P-Perennial
I-Intermittent
E-Ephemeral
*Station Numbers are approximate. Estimated from centerline stationing of Alternative B.

CA Summary:	Total Alt. B Present (linear feet)	Total Alt. E Present (linear feet)	Clear and/or Shade – Alt. B (linear feet)	Piped – Alt. B (linear feet)	Clear and/or Shade – Alt. E (linear feet)	Piped – Alt. E (linear feet)
Perennial	2,137	2,069	802	1,335	802	1,267
Intermittent	162	153	0	162	0	153
Ephemeral	354	353	61	293	61	292
Total	**2,653**	**2,575**	**863**	**1,790**	**863**	**1,712**

Table 3. Pond Assessment Table

Pond ID #	Latitude	Longitude	Section-Township-Range	Sta.*	Size (Acres) Alt B / E	Impact
P1	32.407835°	-90.082119°	S34, T7N, R2E	39+15	2.06 / 4.52	2.06 ac filled within ROW for Alternative B; 4.52 ac filled within ROW for Alternative E.
P2	32.403609°	-90.075698°	S34, T7N, R2E	64+35	0.54 / 1.01	0.54 ac filled within ROW for Alternative B; 1.01 ac filled within ROW for Alternative E.
P3	32.402001°	-90.073208°	S34, T7N, R2E	68+90	0.63 / 0.94	0.63 ac filled within ROW for Alternative B; 0.94 ac filled within ROW for Alternative E.
P4	32.400379°	-90.070679°	S35 T7N R2E	83+82	0.20 / 0.23	0.20 ac filled within ROW for Alternative B; 0.23 ac filled within ROW for Alternative E.

*Station Numbers are approximate. Estimated from centerline stationing of Alternative B.

Pond Summary:	Total Alt. B Present (acres)	Total Alt. E Present (acres)	Permanent Fill – Alternative B (acres)	Permanent Fill – Alternative E (acres)
Total	**3.43**	**6.70**	**3.43**	**6.70**

Chapter 5. References

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NOAA Climate Data Online. Accessed September 2023 for rainfall information. https://www.ncei.noaa.gov/cdo-web/

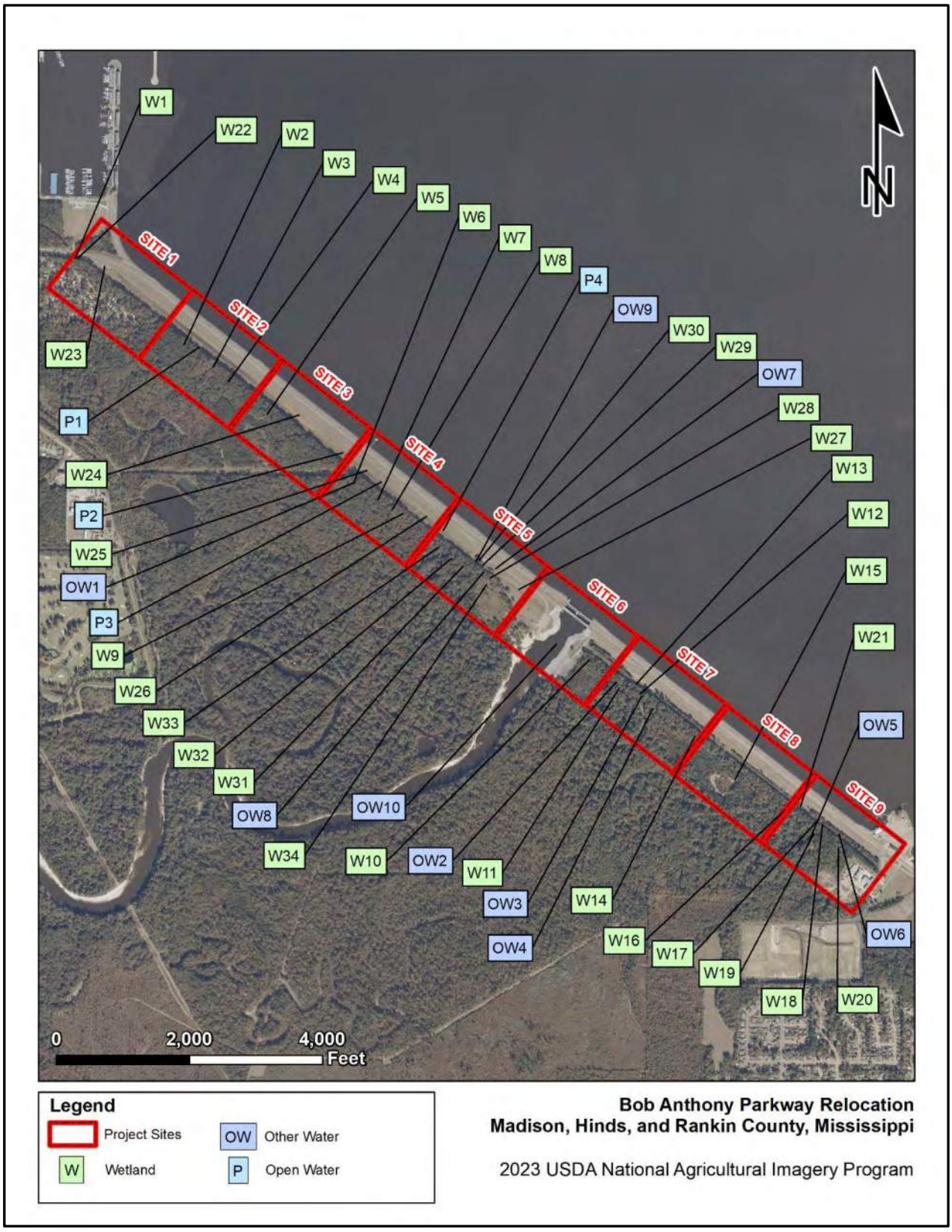
Appendix A — Methods and Tools

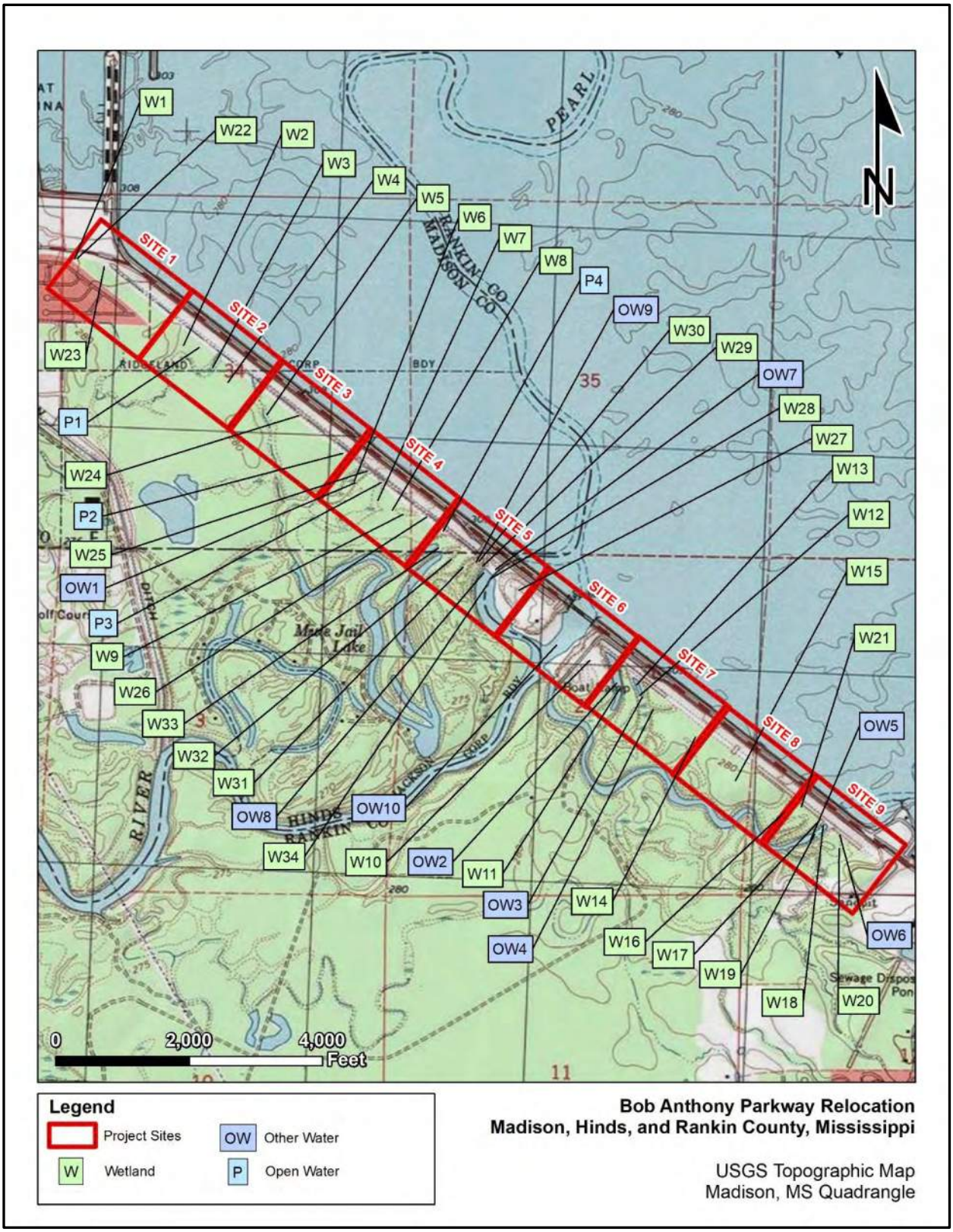
Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference
Wetland Delineation	1987 Manual	https://www.lrh.usace.army.mil/Portals/38/docs/USACE%2087%20Wetland%20Delineation%20Manual.pdf	Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
	Regional Supplement	usace.contentdm.oclc.org/utils/getfile/collection/p266001coll1/id/7594	U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/ EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	https://www.fws.gov/wetlands/documents/classification-of-wetlands-and-deepwater-habitats-of-the-united-states.pdf	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. Government Printing Office, Washington, D.C.
Other Waters Delineation	OHWM	https://www.federalregister.gov/documents/2023/01/18/2022-28595/revised-definition-of-waters-of-the-united-states	Congressional Federal Register 33 Part 328 Definition of Waters of the United States.
Hydrology	Technical Standard	https://www.nrc.gov/docs/ML1327/ML13276A040.pdf	U.S. Army Corps of Engineers. 2005. *Technical Standard for Water-Table Monitoring of Potential Wetland Sites, WRAP Technical Notes Collection* (ERDC TN-WRAP-05-02). U.S. Army Engineer Research and Development Center, Vicksburg, MS.
Plant Indicator Status	National Wetland Plant List	http://wetland_plants.usace.army.mil/	U.S. Army Corps of Engineers. 2020. National Wetland Plant List, version 3.5.
	USDA Plant Database	http://plants.usda.gov/	Website
Soils Data	Soil Survey	Web Soil Survey: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx	Website
	Hydric Soil Indicators	https://nrcspad.sc.egov.usda.gov/DistributionCenter/pdf.aspx?productID=663	USDA Natural Resources Conservation Service. 2006b. *Field indicators of hydric soils in the United States, Version 6.0*. ed. G. W. Hurt and L. M. Vasilas. Fort Worth, TX: USDA NRCS in cooperation with the National Technical Committee for Hydric Soils.
Climate Data	NOAA Monthly Summary Tables	https://www.ncei.noaa.gov/cdo-web/	Website

Appendix B — Detailed Site Information

Site Maps, Wetland Datasheet, Other Water Field Datasheet, Site Photographs (Garver delineated aquatic features only)


W1
W22
W2
W3
W4
W5
W6
W7
W8
P4
OW9
W30
W29
OW7
W28
W27
W13
W12
W15
W21
OW5
OW6
W20
W18
W19
W17
W16
W14
OW3
W11
OW2
W10
W34
OW8
W31
W32
W33
W26
W9
P3
OW1
W25
P2
W24
P1
W23
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
SITE 7
SITE 8
SITE 9
N
0
2,000
4,000
Feet
Legend
Project Sites
Wetland
OW Other Water
P Open Water
Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi
2023 USDA National Agricultural Imagery Program


W1
W22
W2
W3
W4
W5
W6
W7
W8
P4
OW9
W30
W29
OW7
W28
W27
W13
W12
W15
W21
OW5
OW6
W20
W18
W19
W17
W16
W14
OW3
W11
OW2
W10
W34
OW8
OW10
W31
W32
W33
W26
W9
P3
OW1
W25
P2
W24
P1
W23
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
SITE 7
SITE 8
SITE 9
PEARL
RANKIN CO
MADISON CO
HINDS CO
RIVER
DITCH
Mule Jail Lake
N
0
2,000
4,000
Feet
Legend
Project Sites
Wetland
Other Water
Open Water
Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi
USGS Topographic Map
Madison, MS Quadrangle

Site 1

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1 - Alternative E
2023 USDA National Agricultural Imagery Program

W22	
Emergent Wetland	
	
Description	W22. View is to the east.

GAR-DP 1	
Hydric Soil	
	
Description	Hydric soils at GAR-DP 1 within W22.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 1

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.411472° Long: -90.088769° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: GAR-DP 1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Panicum dichotomiflorum*	40	Yes	FACW
2. *Diodia virginiana*	15	Yes	FAC
3. *Saururus cernuus*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 =Total Cover		
50% of total cover: 30	20% of total cover: 12		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL

Sampling Point: GAR-DP 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 6/1	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations
6-12	10YR 6/1	80	5YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Site meets hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 2

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.411455° Long: -90.088761° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: GAR-DP 2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juniperus virginiana*	25	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	25 =Total Cover		
50% of total cover: 13	20% of total cover: 5		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Diodia virginiana*	5	Yes	FAC
2. *Lactuca serriola*	5	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL

Sampling Point: GAR-DP 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	92	10YR 3/6	8	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Soil Hardpan

Depth (inches): 6

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Site meets hydric soil criteria.

W23	
Emergent Wetland	
	
Description	W23. View is to the southeast.

GAR-DP 3	
Hydric Soil	
	
Description	Hydric soils at GAR-DP 3 within W23.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 3

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 10

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.411312° Long: -90.087676° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: R5UBFx*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland. *NWI shows aquatic feature shifted from where wetland actually occurs. DP taken outside NWI wetland feature but is in the actual wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- X Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- X Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 0.5
Water Table Present?	Yes X	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Leersia hexandra*	80	Yes	OBL
2. *Diodia virginiana*	15	No	FAC
3. *Eleocharis acicularis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Leersia hexandra*	80	Yes	OBL
2. *Diodia virginiana*	15	No	FAC
3. *Eleocharis acicularis*	5	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 4

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 10

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.411333° Long: -90.087665° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 4

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Setaria pumila*	70	Yes	FAC
2. *Paspalum notatum*	25	Yes	FACU
3. *Paspalum dilatatum*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)
Site does not meet hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/3	80	10YR 4/4				Loamy/Clayey	20% 10YR 4/4 in matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
___ Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:
Site does not meet hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

Site 2

Legend

Open Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 2
2023 USDA National Agricultural Imagery Program

Ross R. Barnett Reservoir
P2
Spillway Rd (WB)
Spillway Rd (EB)
Maintained Right of Way
Bottomland Forest
0
250
500
Feet
Legend
Open Water
Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi
Site 2 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 2 - Alternative E
2023 USDA National Agricultural Imagery Program

P1	
Pond	
	
Description	P1. View is to the southeast. Representative of other ponds in project area.

P1	
Pond	
	
Description	P1. View is to the northeast. Representative of other ponds in project area.

Site 3

Legend

- Data Points
- Open Water
- Wetland - Emergent

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3 - Alternative E
2023 USDA National Agricultural Imagery Program

W24	
Emergent Wetland	
	
Description	W24. View is to the south.

GAR-DP 5	
Hydric Soil	
	
Description	Hydric soils at GAR-DP 5 within W24.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 5

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.404996° Long: -90.077638° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: R5UBFx*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland. *NWI shows aquatic feature shifted from where wetland actually occurs. DP taken outside NWI wetland boundary but still refers to the feature.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 2
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 5

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Leersia hexandra*	100	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 6/1	90	10YR 5/8	10	C	PL/M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Organic Bodies (A6) **(LRR P, T, U)**
___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
___ Muck Presence (A8) **(LRR U)**
___ 1 cm Muck (A9) **(LRR P, T)**
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ Coast Prairie Redox (A16) **(MLRA 150A)**
___ Sandy Mucky Mineral (S1) **(LRR O, S)**
___ Sandy Gleyed Matrix (S4)
___ Sandy Redox (S5)
___ Stripped Matrix (S6)
___ Dark Surface (S7) **(LRR P, S, T, U)**
___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
___ Thin Dark Surface (S9) **(LRR S, T, U)**
___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
___ Loamy Mucky Mineral (F1) **(LRR O)**
___ Loamy Gleyed Matrix (F2)
X Depleted Matrix (F3)
___ Redox Dark Surface (F6)
___ Depleted Dark Surface (F7)
___ Redox Depressions (F8)
___ Marl (F10) **(LRR U)**
___ Depleted Ochric (F11) **(MLRA 151)**
___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
___ Umbric Surface (F13) **(LRR P, T, U)**
___ Delta Ochric (F17) **(MLRA 151)**
___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

___ 1 cm Muck (A9) **(LRR O)**
___ 2 cm Muck (A10) **(LRR S)**
___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
___ Red Parent Material (F21)
___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ____

Remarks:
Site meets hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 6

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.405035° Long: -90.077661° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: n/a*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland. Soil appeared recently disturbed. *NWI shows aquatic feature shifted from where wetland actually occurs. DP taken inside NWI wetland features but is outside the actual delineated wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 6

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Cynodon dactylon*	70	Yes	FACU
2. *Paspalum notatum*	20	Yes	FACU
3. *Kummerowia striata*	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)
Site does not meet hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Loamy/Clayey	
2-6	10YR 5/3	96	10YR 5/6	4	C	M	Loamy/Clayey	Distinct redox concentrations
6-14	10YR 5/8	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Site does not meet hydric soil criteria. Soils at site appear disturbed by recent culvert installation.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

Site 4

Legend

- Data Points
- Wetland - Forested
- Wetland - Emergent
- Open Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Forested
- Wetland - Emergent
- Open Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4 - Alternative B
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Forested
- Wetland - Emergent
- Open Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4 - Alternative E
2023 USDA National Agricultural Imagery Program

W25	
Emergent Wetland	
	
Description	W25. View is to the south.

W25	
Emergent Wetland	
	
Description	W25. View to the northwest.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 7

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%): 6

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.402942° Long: -90.074501° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site does not meet wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 7

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Paspalum urvillei*	90	Yes	FAC
2. *Paspalum notatum*	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover:	20	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 5/3	96	10YR 5/8	4	C	M	Loamy/Clayey	Prominent redox concentrations
8-12	10YR 5/3	92	10YR 5/8	8	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Site does not meet hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Ridgeland / Madison Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 8

Investigator(s): Joe Rujawitz Section, Township, Range: S34 T7N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.402915° Long: -90.074526° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Calhoun association NWI classification: R5UBFx*

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland. *NWI shows aquatic feature shifted from where wetland actually occurs. DP taken outside NWI wetland features but is inside the actual delineated wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- X Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- X Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 8

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Leersia hexandra*	80	Yes	OBL
2. *Fimbristylis dichotoma*	5	No	OBL
3. *Cyperus strigosus*	5	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 =Total Cover		
50% of total cover: 45	20% of total cover:	18	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (A)

Total Number of Dominant Species Across All Strata: (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	Gley1 5/5GY	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Site meets hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

Site 5

Legend

Data Points | Wetland - Emergent | Open Water

Other Waters | Wetland - Forested

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5
2023 USDA National Agricultural Imagery Program

Legend

Data Points | Wetland - Emergent | Open Water

Other Waters | Wetland - Forested

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5 - Alternative B
2023 USDA National Agricultural Imagery Program

Legend

Data Points | Wetland - Emergent | Open Water

Other Waters | Wetland - Forested

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5 - Alternative E
2023 USDA National Agricultural Imagery Program

P4 and W26	
Pond and Emergent Wetland	
	
Description	P4 and W26. View is to the east.

W26	
Emergent Wetland	
	
Description	W26. View is further to the east. Culverts are source of OW8.

W33	
Forested Wetland	
	
Description	W33. View is to the south.

W33	
Forested Wetland	
	
Description	W33. View is to the east.

W32	
Forested Wetland	
	
Description	W32. View is to the north of GAR-DP15.

W32	
Forested Wetland	
	
Description	W32. View is further to the west at GAR-DP15.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Jackson / Hinds Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 15

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.399197° Long: -90.070107° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Chenneby association NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- X Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 15

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Taxodium distichum*	30	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30	=Total Cover	
50% of total cover: 15		20% of total cover:	6
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5')			
1. *Arundinaria gigantea*	50	Yes	FACW
2. *Saururus cernuus*	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 5/3	100					Sandy	
3-10	10YR 5/2	96	10YR 5/8	4	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Site meets hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Jackson / Hinds Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 16

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 10

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.399179° Long: -90.070079° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Chenneby association NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet alll three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No wetland hydrology indicators observed.

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VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: GAR-DP 16

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celtis laevigata*	40	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40	=Total Cover	
50% of total cover: 20		20% of total cover:	8
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5')			
1. *Arundinaria gigantea*	60	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60	=Total Cover	
50% of total cover: 30		20% of total cover:	12
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/2	100					Sandy	
2-12	10YR 5/3	98	10YR 3/6	2	C	M	Sandy	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

Site does not meet hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

OW9	
Ephemeral Stream	
	
Description	OW9. View is upgradient to the west.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson/Hinds/Mississippi	
Investigator(s): Joe Rujawitz	**Lat:** 32.399102° **Long:** -90.069104°	**Sample Location ID:** OW9
Applicant/Owner: Pearl River Valley Water Supply District	**Date:** 08/15/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** n/a. Relief channel	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION	**Tributary subsystem:** ☑ Ephemeral ☐ Intermittent ☐ Perennial **Tributary flows directly into a TNW?** **Explain:** No. OW 9 flows into OW8 and a pond before connecting with Pearl River. **Distance to nearest TNW:** River Miles: 0.33 Aerial Miles: 0.29 **Describe flow route to TNW:** Tributary flows east into OW8, thence into riparian pond; thence into Pearl River. **Tributary is** (natural / artificial / manipulated): **Explain:** Natural. Tributary is a relief channel of adjacent wetland during flood events.
WEATHER CONDITIONS	**Current:** ☐ rain (steady rain) ☐ showers (intermittent) ☐ cloud cover_____ (%) ☑ clear/ sunny air temperature: 86 (°F) **Has there been heavy rain in the last 7 days?** No **Average Rainfall:** 0 (in.) **Comment:**
WATERSHED FEATURES	**Predominant surrounding landuse:** ☑ Forest ☐ Commercial ☐ Other (Explain): ☐ Field/Pasture ☐ Industrial ☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 77 (ft.) **Estimated channel width**: 3 (ft.) **Estimated channel depth**: 0.25 (ft.) **Channelized:** Yes **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☑ 3:1 ☐ 4:1 ☐ greater ☐ **Substrate:** sand ☑ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Defined bed and banks **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Bank appears stable. **Riffle / Run / Pool complex:** No **Explain:** No flow observed.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Relatively straight. **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** No flow on day of investigation **Average flow events per year:** ?
VEGETATION	**Approximate width of riparian buffer:** n/a (ft.) **Dominant species present** (top bank / buffer): *Triadica sebifera, Saururus cernuus, Arundinaria gigantea, Persicaria puncata* **Aquatic vegetation present:** No **Comment:**

OW8	
Perennial Stream	
	
Description	OW8. View is upgradient to the northwest. Within W30.

OW8	
Perennial Stream	
	
Description	OW8. View is downgradient to the south. Within W29.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson/Hinds/Mississippi	
Investigator(s): Joe Rujawitz	**Lat:** 32.398963° **Long:** -90.068826°	**Sample Location ID:** OW8
Applicant/Owner: Pearl River Valley Water Supply District	**Date:** 08/15/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** Approx. 339 Acres	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☐ Intermittent ☑ Perennial

Tributary flows directly into a TNW?

Explain: No. OW8 flows into a pond before connecting with Pearl River.

Distance to nearest TNW:

River Miles: 0.27 Aerial Miles: 0.23

Describe flow route to TNW: Tributary flows southeast into riparian pond; thence into Pearl River.

Tributary is (natural / artificial / manipulated):

Explain: The tributary has been created artificially to drain the ditches along Ross Barnette Reservoir into Pearl River

WEATHER CONDITIONS

Current:

☐ rain (steady rain)
☐ showers (intermittent)
☐ cloud cover _____ (%)
☑ clear/ sunny
air temperature: 86 (°F)

Has there been heavy rain in the last 7 days? No

Average Rainfall: 0 (in.)

Comment:

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☑ Other (Explain):
Area around stream is maintained ROW associated with Spillway Road, Barnett Reservoir, and utility easement.

☐ Field/Pasture ☐ Industrial

☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 77 (ft.) **Estimated channel width**: 3 (ft.) **Estimated channel depth**: 0.25 (ft.) **Channelized:** Yes **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☑ 3:1 ☐ 4:1 ☐ greater ☐ **Substrate:** sand ☑ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Defined bed and banks **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Bank appears stable. **Riffle / Run / Pool complex:** No **Explain:** No flow observed.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Relatively straight. **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** No flow on day of investigation **Average flow events per year:** ?
VEGETATION	**Approximate width of riparian buffer:** n/a (ft.) **Dominant species present** (top bank / buffer): *Triadica sebifera, Saururus cernuus, Arundinaria gigantea, Persicaria puncata* **Aquatic vegetation present:** No **Comment:**

W28	
Forested Wetland	
	
Description	W28. View is to the west. W34 edge can be seen in background.

GAR-DP 11	
Hydric Soil	
	
Description	Hydric soils at GAR-DP 11 within W28.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Brandon / Rankin Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 11

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.397483° Long: -90.067581° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

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VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 11

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	55	Yes	FAC
2. *Triadica sebifera*	30	Yes	FAC
3. *Taxodium distichum*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
	95	=Total Cover	
50% of total cover: 48		20% of total cover:	19
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
		=Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5')			
1. *Triadica sebifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	5	=Total Cover	
50% of total cover: 3		20% of total cover:	1
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/3	100						
2-12	10YR 5/2	98	10YR 5/8	2	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Site meets hydric soil criteria.

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U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Brandon / Rankin Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 12

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope (%): 10

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.397502° Long: -90.067536° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? Yes X No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 12

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	30	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	30 =Total Cover		
50% of total cover: 15	20% of total cover: 6		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ligustrum sinense*	40	Yes	FAC
2. *Triadica sebifera*	20	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	60 =Total Cover		
50% of total cover: 30	20% of total cover: 12		
Herb Stratum (Plot size: 5')			
1. *Triadica sebifera*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 =Total Cover		
50% of total cover: 5	20% of total cover: 2		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/2	100					Sandy	
2-12	10YR 5/3	98	10YR 3/6	2	C	M	Sandy	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ____ **No** X

Remarks:

Site does not meet hydric soil criteria.

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OW7	
Ephemeral Stream	
	
Description	OW7. View is downgradient to the south.

OW7	
Ephemeral Stream	
	
Description	OW7. View is upgradient to the north.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson/Hinds/Mississippi	
Investigator(s): Joe Rujawitz	**Lat:** 32.398833° **Long:** -90.068169°	**Sample Location ID:** OW7
Applicant/Owner: Pearl River Valley Water Supply District	**Date:** 08/15/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** 1.5 Acres	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION	**Tributary subsystem:** ☑ Ephemeral ☐ Intermittent ☐ Perennial **Tributary flows directly into a TNW?** **Explain:** No. OW7 flows into a pond before connecting with Pearl River. **Distance to nearest TNW:** River Miles: 0.28 Aerial Miles: 0.23 **Describe flow route to TNW:** Tributary flows southwest into riparian pond; thence into Pearl River. **Tributary is** (natural / artificial / manipulated): **Explain:** The tributary has been created artificially to drain the area along Ross Barnette Reservoir.
WEATHER CONDITIONS	**Current:** ☐ rain (steady rain) ☐ showers (intermittent) ☐ cloud cover_____ (%) ☑ clear/ sunny air temperature: 86 (°F) **Has there been heavy rain in the last 7 days?** No **Average Rainfall:** 0 (in.) **Comment:**
WATERSHED FEATURES	**Predominant surrounding landuse:** ☑ Forest ☐ Commercial ☑ Other (Explain): Area around stream is maintained ROW associated with Spillway Road and Barnett Reservoir ☐ Field/Pasture ☐ Industrial ☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 150 (ft.) **Estimated channel width**: 3 (ft.) **Estimated channel depth**: 0.25 (ft.) **Channelized:** Yes **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☐ 4:1 ☑ greater ☐ **Substrate:** sand ☑ cobble ☑ silt ☑ gravel ☑
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Defined bed and banks **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable near source where lined with riprap. Towards the mouth, the stream has slightly eroded banks. **Riffle / Run / Pool complex:** No **Explain:** No flow observed.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Relatively straight. **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** No flow on day of investigation **Average flow events per year:** ?
VEGETATION	**Approximate width of riparian buffer:** n/a (ft.) **Dominant species present** (top bank / buffer): *Triadica sebifera, Saururus cernuus, Persicaria spp., Chasmanthium latifolium* **Aquatic vegetation present:** No **Comment:** Weeds growing in riprap near source. Vegetation along OW7 dominated by Triadica sebifera in forested areas and by Persicaria puncata and Saururus cernuus in emergent areas. The emergent areas belong to the riparian zone of OW8.

Site 6

Legend

- Data Points
- Wetland - Emergent
- Other Waters

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Emergent
- Other Waters

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6 - Alternative B
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Emergent
- Other Waters

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6 - Alternative E
2023 USDA National Agricultural Imagery Program

W27	
Emergent Wetland	
	
Description	W27. View is to the northwest.

GAR-DP10	
Hydric Soil	
	
Description	Hydric soils at GAR-DP10 within W27.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Brandon / Rankin Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 9

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.397339° Long: -90.065958° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site does not meet all three criteria and is not in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

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VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 9

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5')			
1. *Paspalum notatum*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
50% of total cover: 50	20% of total cover: 20		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	100	x 4 =	400
UPL species	0	x 5 =	0
Column Totals:	100 (A)		400 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (If observed, list morphological adaptations below.)
Site does not meet hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	98	10YR 3/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
2-6	10YR 4/2	70	10YR 3/6	5	C	M	Loamy/Clayey	25% 10YR 5/2 in Matrix
6-14	10YR 6/2	80	10YR 6/8	20	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Site meets hydric soil criteria.

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U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region
See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Bob Anthony Parkway Relocation City/County: Brandon / Rankin Sampling Date: 8/15/2023

Applicant/Owner: Pearl River Valley Water Supply District State: MS Sampling Point: GAR-DP 10

Investigator(s): Joe Rujawitz Section, Township, Range: S2 T6N R2E

Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.397341° Long: -90.065977° Datum: WGS 1984

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI classification: n/a

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
According to USACE Antecedent Precipitation Tool, climatic conditions were drier than normal. Site meets all three criteria and is in a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- X FAC-Neutral Test (D5)
- ___ Sphagnum Moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Site meets wetland hydrology criteria.

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VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: GAR-DP 10

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 30')			
1. *Panicum dichotomiflorum*	40	Yes	FACW
2. *Diodia virginiana*	40	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 =Total Cover		
50% of total cover: 40	20% of total cover:	16	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)
Prevalence Index = B/A =	

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (If observed, list morphological adaptations below.)
Site meets hydrophytic vegetation criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

SOIL Sampling Point: GAR-DP 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/2	98	10YR 3/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
2-6	10YR 4/2	70	10YR 3/6	5	C	M	Loamy/Clayey	25% 10YR 5/2 in Matrix
6-14	10YR 6/2	80	10YR 6/8	20	C	M	Sandy	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Barrier Islands 1 cm Muck (S12) **(MLRA 153B, 153D)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 149A, 153C, 153D)**
- ___ Very Shallow Dark Surface (F22) **(MLRA 138, 152A in FL, 154)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Coast Prairie Redox (A16) **(outside MLRA 150A)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, T)**
- ___ Anomalous Bright Floodplain Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22) **(outside MLRA 138, 152A in FL, 154)**
- ___ Barrier Islands Low Chroma Matrix (TS7) **(MLRA 153B, 153D)**
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:
Site meets hydric soil criteria.

ENG FORM 6116-2, JUL 2018 Atlantic and Gulf Coastal Plain – Version 2.0

OW10	
Perennial Stream – Pearl River	
	
Description	OW10 (Pearl River). View is upgradient to the north towards the spillway from Barnett Reservoir.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson/Hinds/Mississippi	
Investigator(s): Joe Rujawitz	**Lat:** 32.396582° **Long:** -90.064492°	**Sample Location ID:** OW10
Applicant/Owner: Pearl River Valley Water Supply District	**Date:** 08/15/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** 1,952,000	**Tributary Name (if known):** Pearl River **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION	**Tributary subsystem:** ☐ Ephemeral ☐ Intermittent ☑ Perennial **Tributary flows directly into a TNW?** **Explain:** Yes, tributary is a TNW **Distance to nearest TNW:** River Miles: 0 Aerial Miles: 0 **Describe flow route to TNW:** Tributary is a TNW **Tributary is** (natural / artificial / manipulated): **Explain:** manipulated
WEATHER CONDITIONS	**Current:** ☐ rain (steady rain) ☐ showers (intermittent) ☐ cloud cover_____ (%) ☑ clear/ sunny air temperature: 86 (°F) **Has there been heavy rain in the last 7 days?** No **Average Rainfall:** 0 (in.) **Comment:**
WATERSHED FEATURES	**Predominant surrounding landuse:** ☑ Forest ☐ Commercial ☑ Other (Explain): ☐ Field/Pasture ☐ Industrial ☐ Agricultural ☐ Residential Area around stream is maintained ROW associated with Spillway Road, Barnett Reservoir, and utility easement.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 180 (ft.) **Estimated channel width**: 189 (ft.) **Estimated channel depth**: 25 (ft.) **Channelized:** No **Dam present:** Yes **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☐ 4:1 ☑ greater ☐ **Substrate:** sand ☑ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Defined bed and banks. **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Lined with riprap in study area **Riffle / Run / Pool complex:** No **Explain:** None observed. Water flow remains deep and turbulent due to dam.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** confined **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** n/a (ft.) **Dominant species present** (top bank / buffer): **Aquatic vegetation present:** No **Comment:** Natural riparian zone lined with riprap in project area,

Appendix C — Background Information

USDA NRCS Web Soil Survey

USFWS National Wetland Inventory Map

USGS National Elevation Dataset

USDA National Land Cover Dataset

United States Department of Agriculture

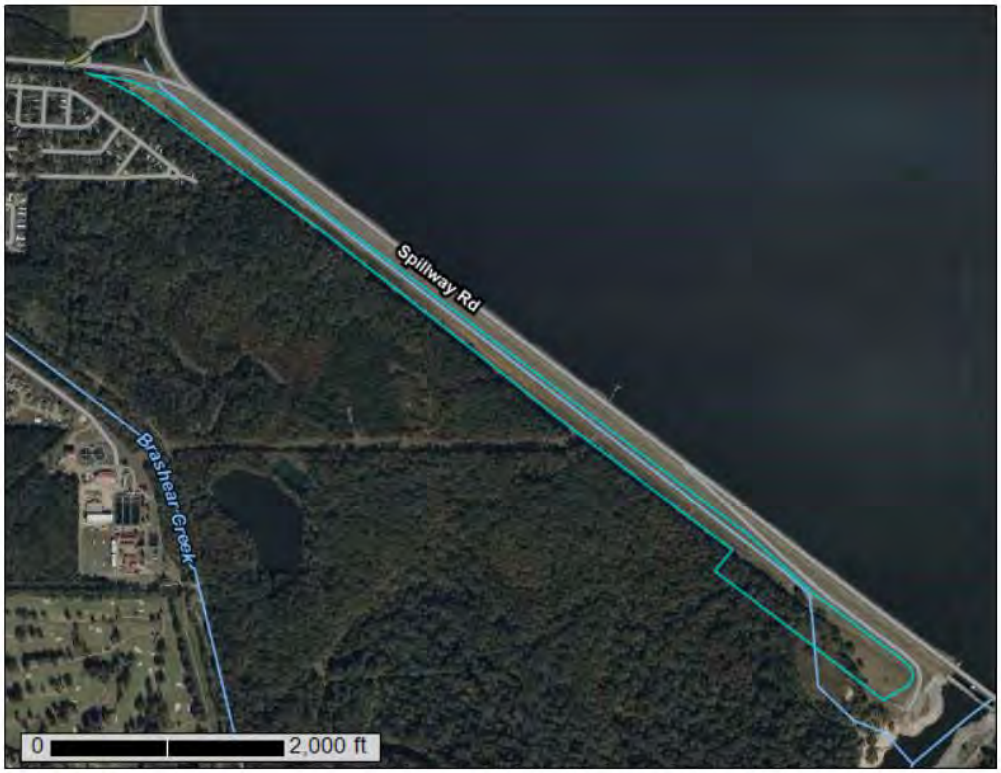
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hinds County, Mississippi, Madison County, Mississippi, and Rankin County, Mississippi

Bob Anthony Parkway Relocation



September 13, 2023

Custom Soil Resource Report
Map—Hydric Rating by Map Unit
Bashear Creek
Spillway Rd
GG
CY
WW
2
Map Scale: 1:13,900 if printed on A landscape (11" x 8.5") sheet.
Meters
Feet
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84
22

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points
- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hinds County, Mississippi
Survey Area Data: Version 20, Sep 9, 2022

Soil Survey Area: Madison County, Mississippi
Survey Area Data: Version 17, Sep 9, 2022

Soil Survey Area: Rankin County, Mississippi
Survey Area Data: Version 18, Sep 9, 2022

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Nov 8, 2021—Nov 29, 2021

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CY	Cascilla-Chenneby association	100	4.2	10.1%
W	Water	0	0.9	2.1%
Subtotals for Soil Survey Area			**5.1**	**12.2%**
Totals for Area of Interest			**41.9**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CC	Cascilla-Calhoun association	94	29.6	70.7%
Subtotals for Soil Survey Area			**29.6**	**70.7%**
Totals for Area of Interest			**41.9**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
2	Cascilla-Arkabutla association, frequently flooded	82	6.4	15.4%
W	Water	0	0.7	1.7%
Subtotals for Soil Survey Area			**7.2**	**17.1%**
Totals for Area of Interest			**41.9**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

U.S. Fish and Wildlife Service
National Wetlands Inventory

Bob Anthony Parkway Relocation

September 13, 2023

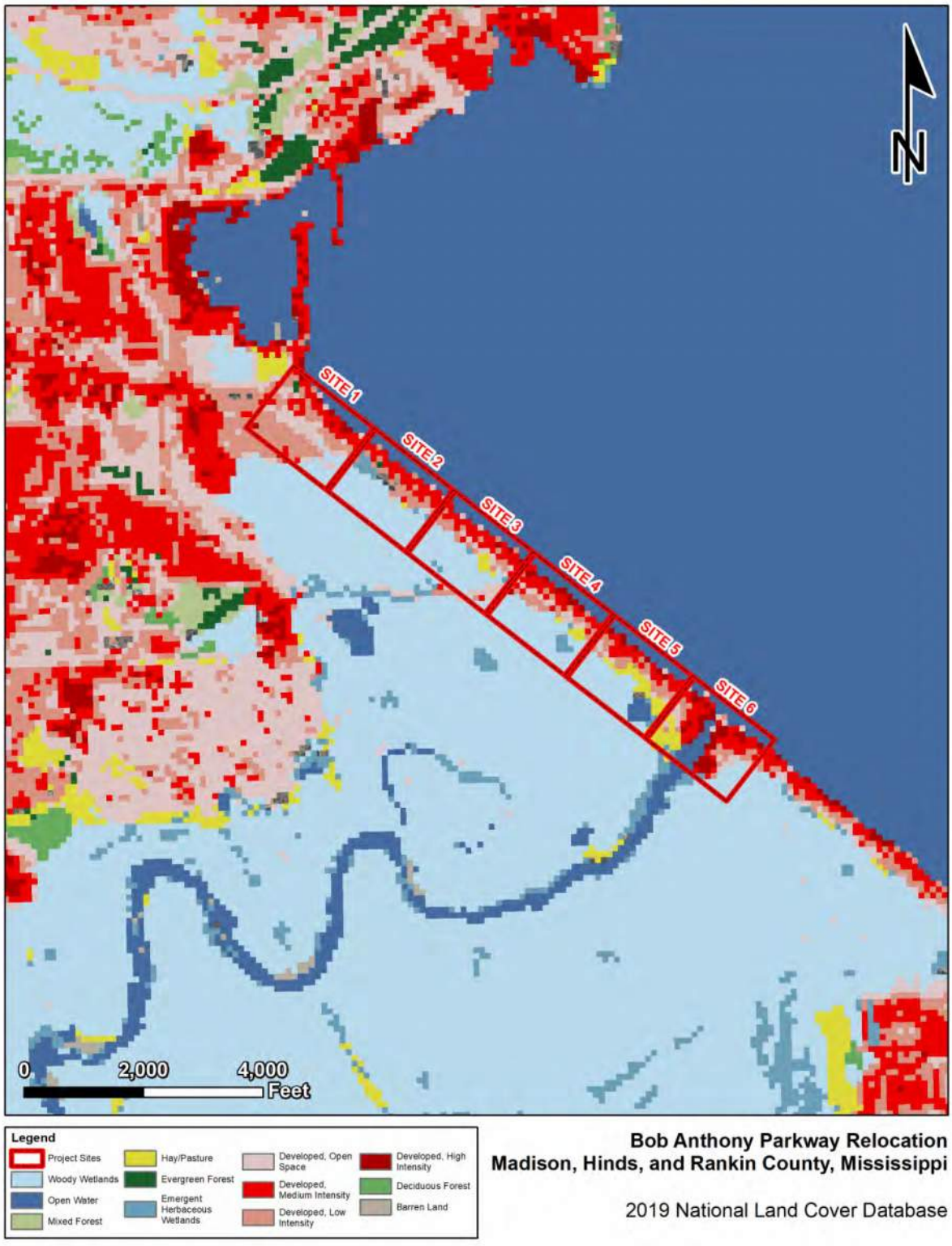
Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper


N
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
0
2,000
4,000
Feet
Legend
Project Sites
Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi
LIDAR Digital Elevation Model (2019)


N
SITE 1
SITE 2
SITE 3
SITE 4
SITE 5
SITE 6
0
2,000
4,000
Feet
Legend
Project Sites
Woody Wetlands
Open Water
Mixed Forest
Hay/Pasture
Evergreen Forest
Emergent Herbaceous Wetlands
Developed, Open Space
Developed, Medium Intensity
Developed, Low Intensity
Developed, High Intensity
Deciduous Forest
Barren Land
Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi
2019 National Land Cover Database

Appendix D — Rainfall Data

Local Recorded Weather

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 185 ft. Lat: 33.4691° N Lon: -88.7822° W
Station: **STATE UNIVERSITY, MS US USC00228374**

Record of Climatological Observations

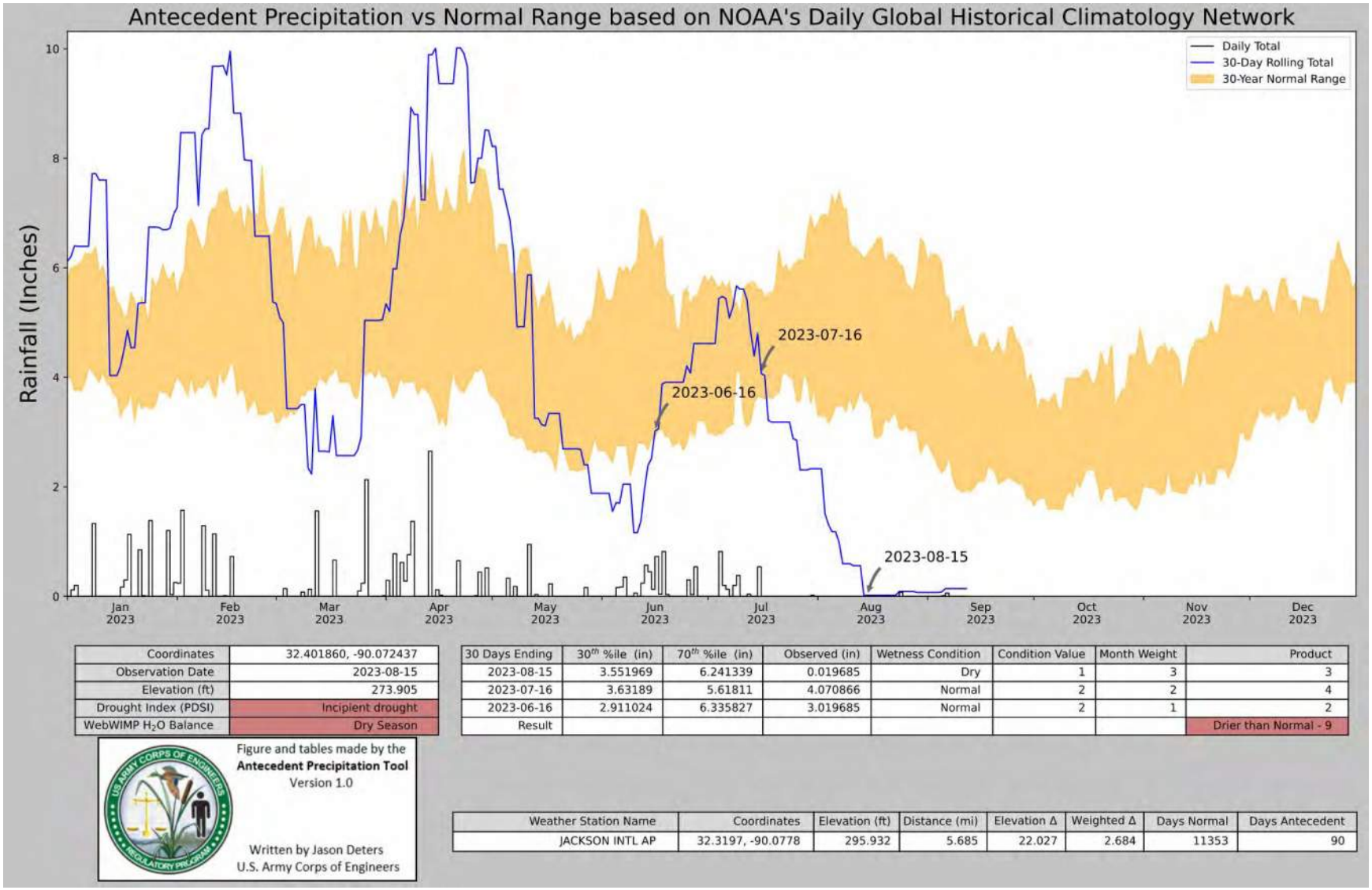
These data are quality controlled and may not be identical to the original observations.
Generated on 09/05/2023

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Observation Time Temperature: 0700 Observation Time Precipitation: 0700

Year	Month	Day	Temperature (F)			Precipitation					Evaporation		"Soil Temperature (F)"					
			"24 Hrs. Ending at Observation Time"		At Obs.	24 Hour Amounts Ending at Observation Time				At Obs. Time			4 in. Depth			8 in. Depth		
			Max.	Min.		Rain, Melted Snow, Etc. (in)	Flag	Snow, Ice Pellets, Hail (in)	Flag	Snow, Ice Pellets, Hail, Ice on Ground (in)	24 Hour Wind Movement (mi)	Amount of Evap. (in)	Ground Cover (see *)	Max.	Min.	Ground Cover (see *)	Max.	Min.
2023	07	01	98	77	79	0.00												
2023	07	02	97	76	78	0.00												
2023	07	03	95	73	75	0.10												
2023	07	04	94	70	72	0.45												
2023	07	05	88	71	73	0.10												
2023	07	06	91	70	72	0.10												
2023	07	07	92	72	74	0.66												
2023	07	08	89	71	73	0.00												
2023	07	09	93	72	74	1.32												
2023	07	10	86	70	72	0.56												
2023	07	11	86	68	70	0.00												
2023	07	12	89	70	74	0.57												
2023	07	13	89	73	75	0.75												
2023	07	14	88	74	76	0.30												
2023	07	15	91	73	75	1.69												
2023	07	16	88	72	74	0.04												
2023	07	17	92	71	73	0.00												
2023	07	18	93	72	74	0.00												
2023	07	19	96	74	78	0.00												
2023	07	20	95	75	77	0.00												
2023	07	21	96	76	78	0.00												
2023	07	22	95	70	72	0.70												
2023	07	23	87	65	67	0.00												
2023	07	24	88	66	68	0.00												
2023	07	25	92	68	76	0.00												
2023	07	26	94	73	75	0.00												
2023	07	27	95	74	76	0.00												
2023	07	28	98	74	76	0.00												
2023	07	29	99	74	76	0.00												
2023	07	30	99	75	77	0.00												
2023	07	31	96	71	73	0.00												
		Summary	93	72		7.34												

Empty, or blank, cells indicate that a data observation was not reported.
*Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulch; 7=Grass muck; 8=Bare muck; 0=Unknown
"s" This data value failed one of NCEI's quality control tests. "At Obs." = Temperature at time of observation
"T" values in the Precipitation or Snow category above indicate a "trace" value was recorded.
"A" values in the Precipitation Flag or the Snow Flag column indicate a multiday total, accumulated since last measurement, is being used.
Data value inconsistency may be present due to rounding calculations during the conversion process from SI metric units to standard imperial units.



Coordinates	32.401860, -90.072437
Observation Date	2023-08-15
Elevation (ft)	273.905
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-08-15	3.551969	6.241339	0.019685	Dry	1	3	3
2023-07-16	3.63189	5.61811	4.070866	Normal	2	2	4
2023-06-16	2.911024	6.335827	3.019685	Normal	2	1	2
Result							Drier than Normal - 9

Figure and tables made by the
Antecedent Precipitation Tool
Version 1.0

Written by Jason Deters
U.S. Army Corps of Engineers

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
JACKSON INTL AP	32.3197, -90.0778	295.932	5.685	22.027	2.684	11353	90

Appendix E — Compiled Maps

Site maps including both Garver and CEI delineated aquatic features.

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 1 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 2
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 2 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 2 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 3 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 4 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 5 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Forested
- Garver Delineated Other Waters
- Wetland - Emergent
- CEI Delineated Other Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 6 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 7
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 7 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 7 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 8
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 8 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 8 - Alternative E
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 9
2023 USDA National Agricultural Imagery Program

Legend

- Data Points
- Wetland - Forested
- Wetland - Emergent
- CEI Delineated Other Water

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 9 - Alternative B
2023 USDA National Agricultural Imagery Program

Bob Anthony Parkway Relocation
Madison, Hinds, and Rankin County, Mississippi

Site 9 - Alternative E
2023 USDA National Agricultural Imagery Program

WETLAND AND OTHER WATERS ASSESSMENT REPORT

Bob Anthony Parkway Relocation

Madison and Rankin Counties, MS

Project Number FLBD-6945-00(013) LPA/108635-800000

FMS Number 108635/801000

Prepared by
Cypress Environment and Infrastructure

August 2023

Executive Summary

The Mississippi Department of Transportation is proposing to replace Spillway Road which is currently located on and adjacent to the Ross Barnett Reservoir dam in Jackson, Mississippi. The project is located in Madison and Rankin Counties (West Segment: Sections 34 and 35- Township 7N- Range 2E; East Segment: Section 02- Township 6N- Range 2E).

A total of 21 wetland features (6.01 acres total) and five Other Waters features (2,113 linear feet total) are found in the delineation boundary. The wetlands comprise 5.77 acres of palustrine emergent wetlands and 0.24 acres of palustrine forested wetlands. The Other Waters comprise 878 linear feet of perennial stream and 1,235 linear feet of intermittent stream. The delineation boundary also contains 375 linear feet of ephemeral stream, which does not meet the criteria to be classified as an Other Waters feature but is documented in this report to present a comprehensive assessment of the site. The wetland and Other Waters features should be considered potentially jurisdictional until concurrence is given by a representative of the United States Army Corps of Engineers.

This report presents the presence of potentially jurisdictional wetlands and Other Waters of the United States and does not present potential impacts. This Wetlands and Other Waters Assessment is presented as a supporting document for the Bob Anthony Parkway Relocation Project.

Table of Contents

Figures

Tables

Appendices

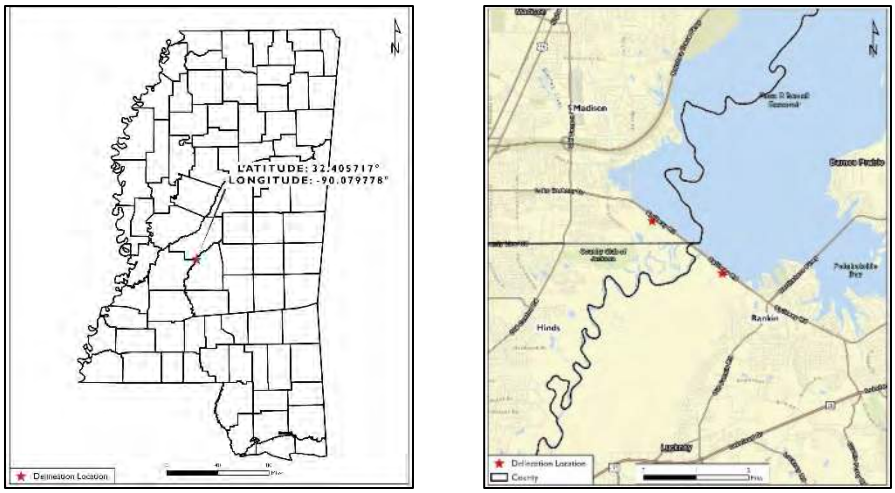
Acronyms and Abbreviations

APT	Antecedent Precipitation Tool
BLH	Bottomland Hardwood
DP	Data Point
HUC	Hydrologic Unit Code
MDOT	Mississippi Department of Transportation
NRCS	Natural Resources Conservation Service
OW	Other Waters of the United States
PEM	Palustrine Emergent
PFO	Palustrine Forested
RHA	River and Harbors Act, Section 10
TMDL	Total Maximum Daily Load
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Services
USGS	United States Geological Survey

Chapter 1. Introduction

The purpose of this report is to identify, quantify, and describe potentially jurisdictional areas such as wetlands and Other Waters (OW) of the United States within the delineation boundary. The wetland and OW delineation was conducted by Savannah R. Morales and Bettie Shoemaker of Cypress Environment and Infrastructure. Fieldwork was performed during a site visit from July 11, 2023, through July 13, 2023. This report facilitates the Mississippi Department of Transportation's (MDOT) efforts to document potentially jurisdictional wetland and OW boundary determinations for review by regulatory authorities and to avoid or minimize impacts to potentially jurisdictional wetlands and OW during the design process.

The project is located adjacent to the Bob Anthony Parkway in Madison and Rankin Counties, near Jackson, Mississippi (Section 34- Township 7N- Range 2E, Section 02- Township-6N-Range 2E, and Section 01- Township-6N-Range 2E). See Figures 1a, 1b, 2, and 3 for more detailed location information. This report is presented as a supplemental study to the overall Bob Anthony Parkway Relocation project.



Figures 1a and 1b. State and County Vicinity Maps

Figure 2. 2021 Aerial imagery of delineation area

Figure 3. USGS 24k Topographic Map

Chapter 2. Methods

This chapter summarizes the methods used to comply with MDOT, federal, state, and local guidance. Please see Appendix A for further details of the methods used in this report.

Prior to initiation of fieldwork, geographic information system (ArcPro 3.2) software was used to compile known hydrologic, geologic, and other relevant information on the study area. Information was gathered from U.S. Fish and Wildlife Service National Wetland Inventory Maps, the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Web Soil Survey Maps, U.S. Geological Survey (USGS) Digital Elevation Model, and 2021 aerial photograph. A site visit was conducted from July 11, 2023, through July 13, 2023, to record relevant data on potentially jurisdictional areas for the purposes of Clean Water Act and/or Rivers and Harbors Act permitting. See Appendix C for maps showing soils, the National Hydrography Dataset, the Wetlands Inventory, the National Elevation Dataset contours, and U.S. Geological Survey's National Land Cover Database.

Work will take place along the south side of the Bob Anthony Parkway/ Spillway Road. Specific details and plans of the proposed work are not yet finalized. This report presents information for the west and east segments of the delineation boundary. Potential jurisdictional wetlands within the delineation boundary were documented during the site visit and are described in this report. Wetland determinations were made using observable vegetation, hydrology, and soils in accordance with the routine approach described in the USACE Wetland Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region Version 2.0 (2010). Details of wetland and upland areas are described on the Wetland Determination Data Forms – Atlantic and Gulf Coastal Plain Region found in Appendix B. OWs are described on OW Field Data Sheets found in Appendix B. Wetland boundaries and locations were not surveyed by a professional land surveyor but were mapped by a hand-held GPS device with sub-meter accuracy (Trimble TDC650).

Regional supplement datasheets were completed at each Data Point (DP) location. At each DP location soils, vegetation, and hydrology were described, and representative photographs were taken. OW Field Data Sheets were completed for each tributary reach within the delineation boundary and not a full channel reach. Photographs were taken up and down gradient at each OW

assessment site.

After fieldwork was completed, data was entered into GIS software (ArcPro 3.0.2), potentially jurisdictional areas were mapped, and areas and lengths were calculated.

Chapter 3. Existing Conditions

Based upon the site inspection, a total of 21 wetland features (6.01 acres), five perennial or intermittent OW features (~2,113 linear feet), and one ephemeral feature (~375 linear feet) are found within the delineation boundary. Although the ephemeral feature is considered non-jurisdictional, it was characterized and documented in this report to present a comprehensive assessment of the site. All potential jurisdictional areas should be considered preliminary prior to confirmation by USACE. Findings are discussed in Tables 2 through 5.

Landscape Setting

The delineation boundary runs alongside the dam of the Ross Barnett Reservoir which was constructed in 1963. While the construction of the reservoir has disturbed much of the delineation area, enough time has passed that wetlands and OW on site have established wetland vegetation, hydrologic regimes, and hydric soils. The delineation boundary contains a matrix of ridge and swale complexes draining to the Pearl River. Higher undulating planes can be found on the northwest end and hillslopes are present towards the southwest end. Manmade features like ponds and ditches are present within the boundary and have established vegetative communities.

The delineation boundary is within the Brashear Creek-Pearl River subwatershed (USGS Hydrologic Unit Code (HUC) 031800020601). The project is in the Southern Mississippi Valley Loess (134) Major Land Resource Area portion of the South Atlantic and Gulf Slope Cash Crops, Forest, and Livestock Region (LRR P) as described by the NRCS. Dominant land use in the area is undeveloped forest within and southwest of the delineation boundary. The mowed dam lawn and the reservoir rights-of-way are northeast of the delineation boundary. Appendix C includes maps showing Soil Survey data, the National Hydrography Dataset, U.S. Fish and Wildlife Service's National Wetlands Inventory, USGS National Elevation data, and Land Use data.

Hydrology

Rainfall in July of 2023 was typical of Gulf Coastal Plain region with sporadic, heavy afternoon showers, see Appendix D for WETS table. At the time of the survey, the area was under normal conditions according to the USACE's Antecedent Precipitation Tool (APT), see Appendix D for APT results. Rain showers were observed on July 11 and July 12 by field personnel. All OW observed on site were actively flowing during the field survey except the ephemeral feature (OW

4). The flowing OWs were at or below the observable Ordinary High-Water Mark at the time of the survey.

Wetlands 3 and 4 appear to be man-made depressions that are fed by rainfall, runoff, and sub-surface flow from the surrounding landscape. Wetland 3 is impounded and does not have a visible surface water connection under normal conditions. Wetland 4 appears to drain southwest during high water events.

OW 3 drains from the drainage ditches north of the boundary south through a forested wetland. There is a rock checkdam at the edge of the maintained drainage ditch and the forest edge. Water was actively flowing over the rock checkdam during the field visit.

No tributaries within the delineation boundary are on the Mississippi Department of Environmental Quality (MDEQ) Section 303(d) list or have established Total Maximum Daily Loads (TMDL). The receiving waterbody of the reported tributaries, the Pearl River (State Waterbody ID: MS508911), has TMDLs established for DDT, sediment, nitrogen, total phosphorus, and toxaphene. The Pear River is not currently listed as impaired by the MDEQ.

Vegetation

Wetland plant communities within the delineation boundary include swamp, emergent wetland, and bottomland hardwood forest. Swamp areas are dominated by water tupelo (*Nyssa aquatica*) and cypress (*Taxodium distichum*). Emergent wetlands are within maintained areas and are dominated by smartweed (*Persicaria hydropiperoides*). Bottomland hardwood forests are dominated by several oak species (*Quercus spp.*), Chinese tallow (*Triadica sebifera*), sugarberry (*Celtis laevigata*), cypress (*T. distichum*), river birch (*Betula nigra*), silver maple (*Acer saccharinum*), and/or water tupelo (*N. aquatica*), and a small Chinese tallow (*T. sebifera*) grove. See Table 2 for habitat type associated with each wetland feature. Upland plant communities within the delineation boundary include mixed community hardwood forest dominated in the tree strata by black cherry (*Prunus seratina*), musclewood (*Carpinus caroliniana*), various oaks (*Quercus spp.*), various hickories (*Carya spp.*) American hop hornbeam (*Ostrya virginiana*), Chinese tallow (*T. sebifera*), sugarberry (*C. laevigata*), cypress (*T. distichum*), gallberry (*Ilex glabra*), various pines (*Pinus spp.*), and sweetgum (*Liquidambar styraciflua*). See Wetland Determination Data Forms in Appendix B for a detailed description of vegetative species within the delineation boundary.

Soils

Soils found in the project area are mapped as Cascilla-Arkabutla association, frequently flooded, and Cascilla-Calhoun association. Both soil types are classified as predominantly hydric (>80% hydric) by the USDA NRCS. See Table 1 and Wetland Determination Data Forms in Appendix B for detailed soil conditions at each data point. Figures 6 and 7 in Appendix B show the distribution of soils across the delineation boundary.

Table 1. Detailed soil resource table

Soil Series	Component/ Local Phase	Component Percent	Landform	Hydric Status	Area (Acres)
Cascilla-Calhoun association	Cascilla	60	Flood plains	Yes	34.40
	Calhoun	22	Terraces	Yes	
	Gillsburg	12	Flood plains	Yes	
Cascilla-Arkabutla association, frequently flooded	Cascilla	43	Flood plains	Yes	34.11
	Arkabutla	34	Flood plains	Yes	
	Unnamed hydric soils (134fp)	5	Flood plains	Yes	

Wetlands and Other Waters

This report is a delineation report supplemental to the full delineation and impact report. As of the time of this writing, the specific project components have not been finalized. This report presents only the presence of potentially jurisdictional wetlands and OW of the U.S. within the delineation boundary. No impacts are presented.

There were 21 wetland features observed within the boundary. See Table 2 for the list of wetland features. Most of the wetland features are part of a ridge and swale matrix found across the landscape in association with the nearby Pearl River. Most of the wetland features are supported by precipitation and groundwater from the surrounding landscape. Some wetland features are isolated depressional wetlands while others are associated with potential OW of the U.S. A total of 6.01 acres of wetlands were observed within the boundary comprising 5.77 acres of forested wetlands and 0.24 acres of emergent wetlands. See the Wetland Determination Data

Forms and associated photographs for detailed wetland descriptions. See Appendix B for detailed figures of wetlands features present across the site.

There were four perennial OW features totaling 878 linear feet, one intermittent OW feature totaling 1,235 linear feet, and one ephemeral feature totaling 375 linear feet within the boundary. OW 1 starts within the forested area of the delineation boundary and flows southwest ultimately draining into the Pear River. OW 2, 3, and 5 are perennial and connected to drainage ditches along the dam levee, water flows south eventually draining into the Pearl River. OW 6 is a man-made drainage feature running parallel to the dam levee flowing northwest and draining into OW 5. OW 4 is an ephemeral feature that starts in an area of low topography and drains into OW 3. OW 4 was predominantly dry during the time of survey despite recent rains. Minimal water was present in OW 4 where the feature meets OW 3. Given the event-based flow regime of OW 4, it is the opinion of Cypress that OW 4 is not jurisdictional under the Clean Water Act. See Appendix B for detailed figures of OW features present across the site.

Figure 4. Potentially jurisdictional wetlands and Other Waters of the U.S**.**

Table 2. Wetland Table

Data Point	Wetland ID	Figure #	Latitude	Longitude	Section-Township-Range	Cowardin Classification	Habitat	Area
DP1	W1	5a	32.411467	-90.088790	S34,T7N,R2E	PEM	Emergent	0.03
DP4	W2	5b	32.407915	-90.083433	S34,T7N,R2E	PFO	BLH	0.02
DP6	W3	5b	32.406492	-90.081256	S34,T7N,R2E	PFO	Swamp	0.53
DP6	W4	5b	32.407040	-90.081986	S34,T7N,R2E	PFO	Swamp	0.63
DP3	W5	5c	32.405347	-90.079452	S34,T7N,R2E	PFO	BLH	0.39
DP10	W6	5d	32.402404	-90.075018	S34,T7N,R2E	PFO	Swamp	0.23
DP12	W7	5d	32.401704	-90.073898	S34,T7N,R2E	PFO	BLH	0.28
DP12	W8	5d	32.401238	-90.073201	S34,T7N,R2E	PFO	BLH	0.06
DP12	W9	5d, 5e	32.401055	-90.072615	S34,T7N,R2E	PFO	BLH	0.14
DP14	W10	5f	32.395159	-90.063507	S02,T6N,R2E	PFO	BLH	0.17
DP16	W11	5f	32.394262	-90.062111	S02,T6N,R2E	PFO	Swamp	0.32
DP16	W12	5f, 5g	32.393489	-90.060904	S02,T6N,R2E	PFO	Swamp	0.77
-	W13	5f, 5g	32.394094	-90.061133	S02,T6N,R2E	PEM	Emergent	0.09
DP17	W14	5g	32.392042	-90.058329	S02,T6N,R2E	PFO	BLH	0.26
-	W15	5h	32.390261	-90.056346	S02,T6N,R2E	PFO	Tallow Forest	0.04
DP20	W16	5h	32.389064	-90.054122	S01,T6N,R2E	PFO	BLH	0.43
DP23	W17	5i	32.387863	-90.050944	S01,T6N,R2E	PFO	BLH	0.85
-	W18	5i	32.388356	-90.051957	S01,T6N,R2E	PEM	Emergent	0.10
DP22	W19	5i	32.388074	-90.052338	S01,T6N,R2E	PFO	Swamp	0.52
DP24	W20	5i	32.387506	-90.051243	S01,T6N,R2E	PFO	BLH	0.12
-	W21	5i	32.389144	-90.053063	S01,T6N,R2E	PEM	Emergent	0.02

DP- Data point- collection point for sampling data for wetland assessment
PFO- Palustrine Forested
PEM- Palustrine Emergent
BLH- Bottomland Hardwood Forest

Table 3. Wetland Summary Table

Wetland Summary	Total Acres Present
Forested	5.77
Scrub-Shrub	0
Emergent	0.24
Total	**6.01**

Table 4. Other Waters of the U.S. Assessment Table

Channel Assessment	Figure #	Latitude	Longitude	Section Township Range	Type	Length in Project Area (feet)	Channel Width (feet)	Name
OW1	5d	32.402404	-90.074962	S34,T7N,R2E	Intermittent	164	15	Unnamed
OW2	5f	32.394360	-90.062121	S02,T6N,R2E	Perennial	380	8	Unnamed
OW3	5f, 5g	32.393329	-90.061035	S02,T6N,R2E	Perennial	438	10	Unnamed
OW4	5f, 5g	32.393194	-90.060238	S02,T6N,R2E	Ephemeral	375	20	Unnamed
OW5	5i	32.388059	-90.052322	S01,T6N,R2E	Perennial	417	10	Pelahatchie Creek
OW6	5i	32.387896	-90.051052	S01,T6N,R2E	Perennial	714	4	Unnamed

Table 5. Other Waters of the U.S. Assessment Summary Table

Other Waters Assessment Summary	Total Linear Feet Present
Perennial	878
Intermittent	1,235
Ephemeral (non-jurisdictional)	375
Total Linear Feet	**2,488**

Chapter 4. References

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Appendix A — Methods and Tools

Table A-1. Methods and tools used to prepare the report.

Parameter	Method or Tool	Website	Reference
Wetland Delineation	1987 Manual	http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf	Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, US. Army Engineer Waterways Experiment Station, Vicksburg, Miss.
	Regional Supplement	http://el.erdc.usace.army.mil/elpubs/pdf/trel10-20.pdf	U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)*, ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/ EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
Wetland Classification	USFWS / Cowardin Classification System	http://www.fws.gov/nwi/Pubs_Reports/Class_Manual/class_titlepg.htm	Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. *Classification of wetlands and deepwater habitats of the United States*. Government Printing Office, Washington, D.C.
Other Waters Delineation	OHWM	http://www.usace.army.mil/inet/functions/cw/cecwo/reg/33cfr328.htm	Congressional Federal Register 33 Part 328 Definition of Waters of the United States.
Plant	BONAP	http://www.bonap.org/	Kartesz, J.T. 2014. Floristic Synthesis of North America, Version 1.0 Biota of North America Program (BONAP). (in press).
	National Wetland Plant List	https://cwbi-app.sec.usace.army.mil/nwpl_static/v34/home/home.html	U.S. Army Corps of Engineers 2020. National Wetland Plant List, version 3.5 U.S. Army Corps of Engineers Engineer Research and Development Center Cold Regions Research and Engineering Laboratory, Hanover, NH
Soils Data	Soil Survey	https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx	Website
	Hydric Soil Indicators	http://soils.usda.gov/use/hydric/	USDA Natural Resources Conservation Service. 2018. *Field indicators of hydric soils in the United States, Version 8.2*. L. M. Vasilas. G. W. Hurt, and J. F. Berkowitz. USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils
Climate Data	Wets Table	http://www.wcc.nrcs.usda.gov/climate/wetlands.html	Website
	Rainfall Data	https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-monthly&timeframe=30&location=MS&station=US1MSMD0001	NOAA National Centers for Environmental Information U.S. Climate Normals
	Local Weather	http://www.wunderground.com/	Website

Appendix B — Detailed Site Information

Site maps, plan and profile sheets, Wetland Determination Data Forms, Other Water Field Datasheets, site photographs

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

CYPRESS Environment & Infrastructure

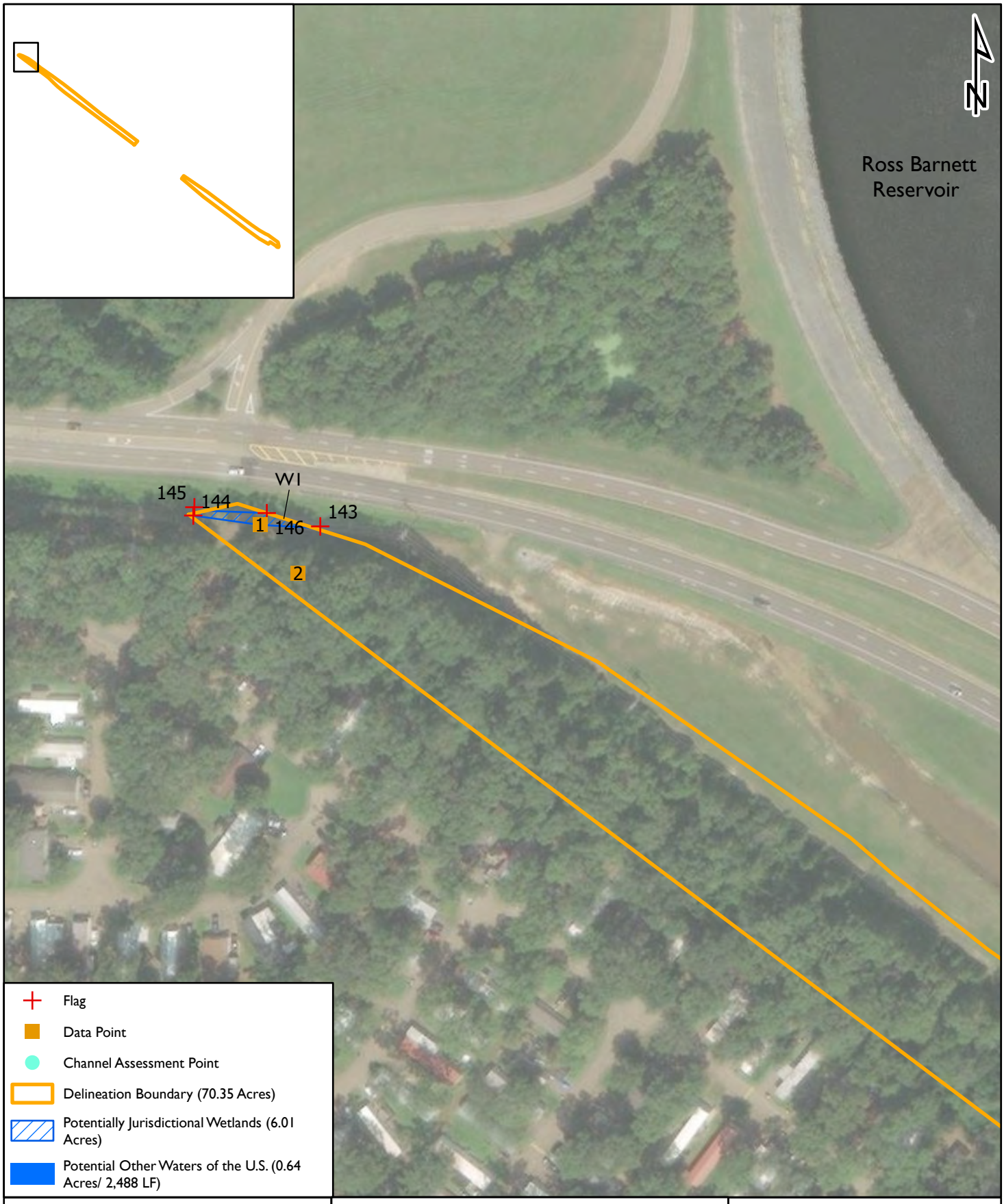
FIGURE B-1

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

CYPRESS Environment & Infrastructure

FIGURE B-2



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

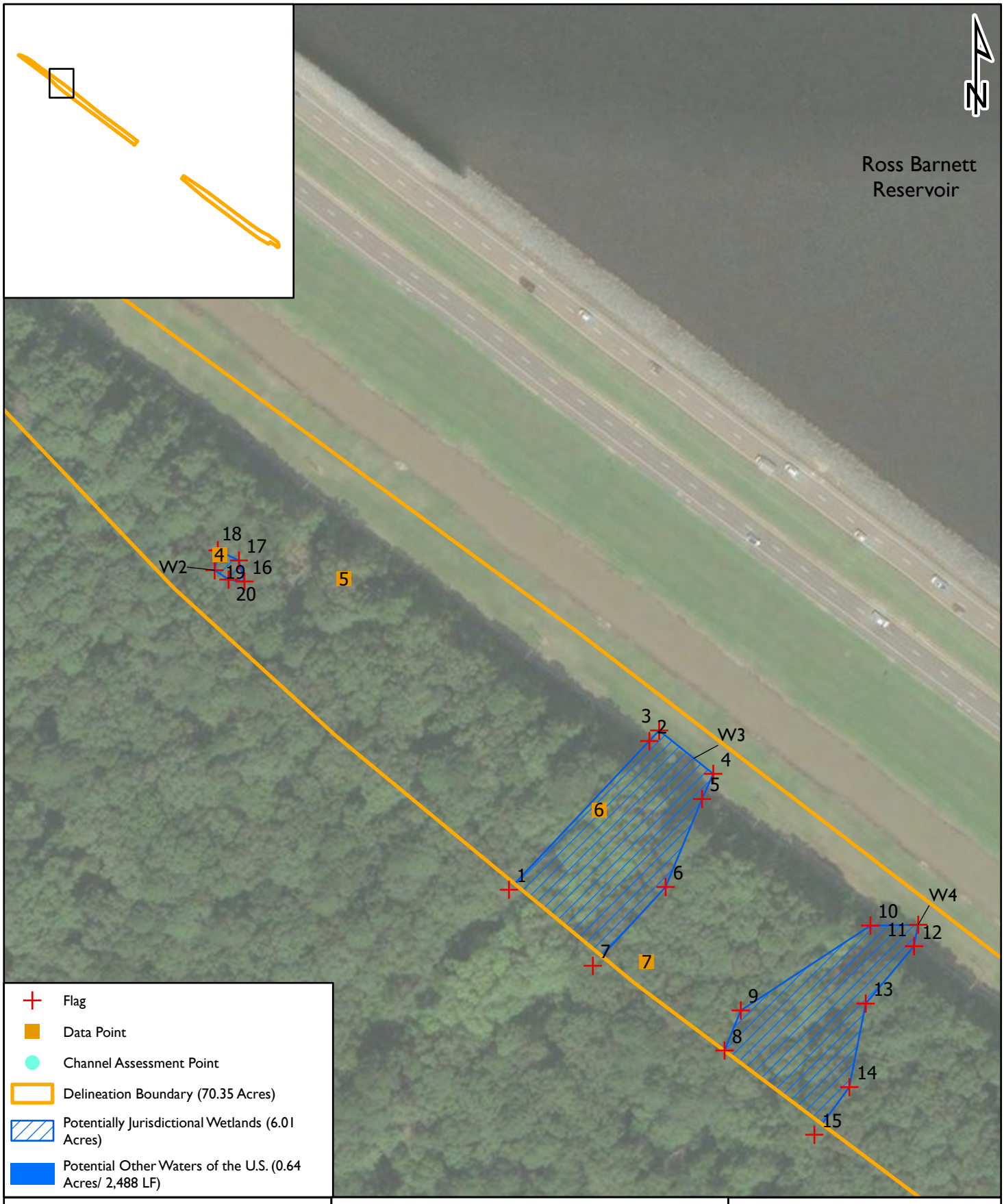
Madison and Rankin Counties, Mississippi

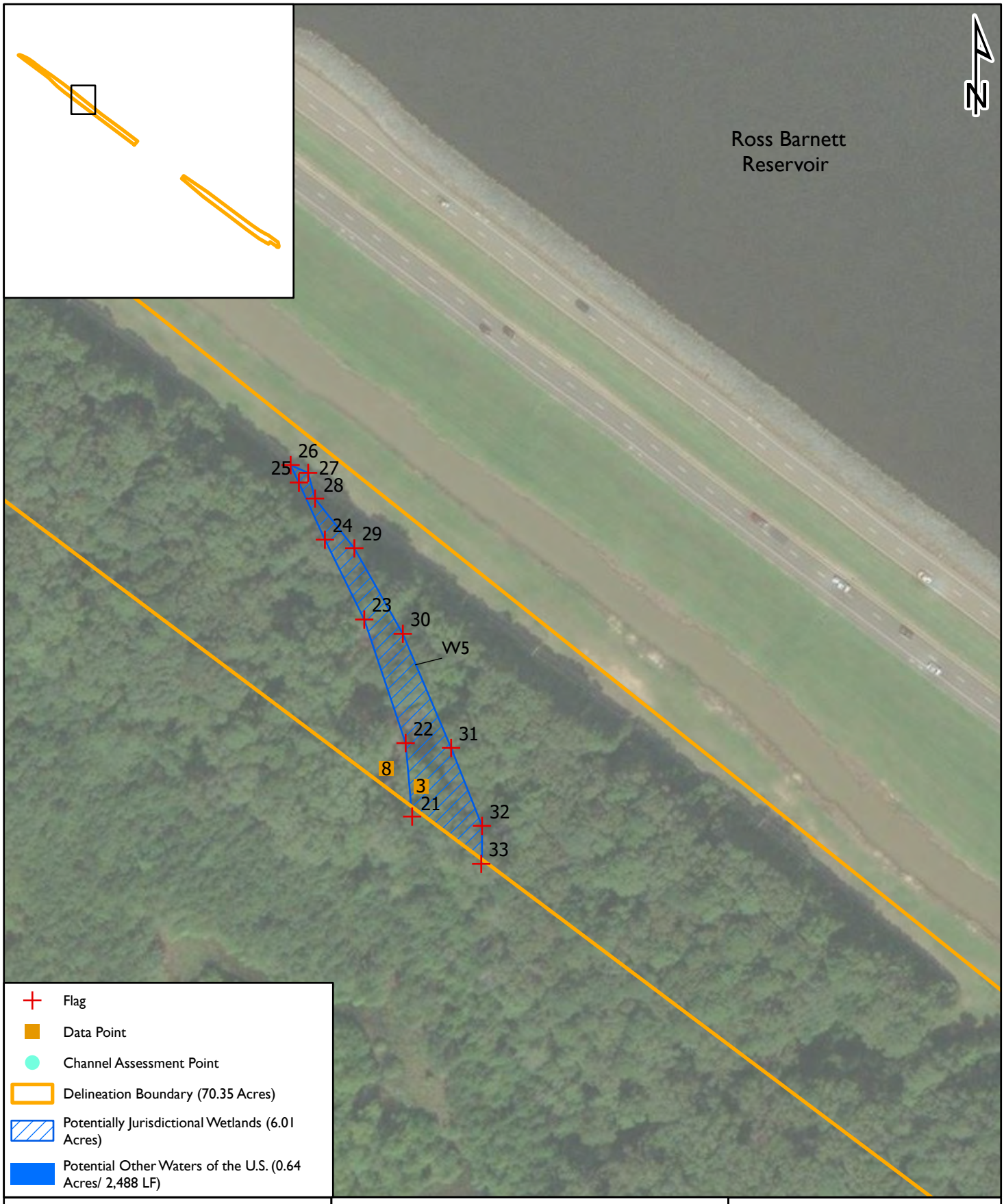
DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-3


N
Ross Barnett Reservoir
18
17
4
W2
19
16
20
5
3
2
W3
4
5
6
1
6
7
7
W4
10
11
12
9
13
8
14
15
Flag
Data Point
Channel Assessment Point
Delineation Boundary (70.35 Acres)
Potentially Jurisdictional Wetlands (6.01 Acres)
Potential Other Waters of the U.S. (0.64 Acres/ 2,488 LF)
0
150
300
Feet
Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet
MISSISSIPPI DEPARTMENT OF TRANSPORTATION
Madison and Rankin Counties, Mississippi
DETAILED WETLANDS MAP
CYPRESS
Environment & Infrastructure
Date: 7/25/2023
FIGURE B-4



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

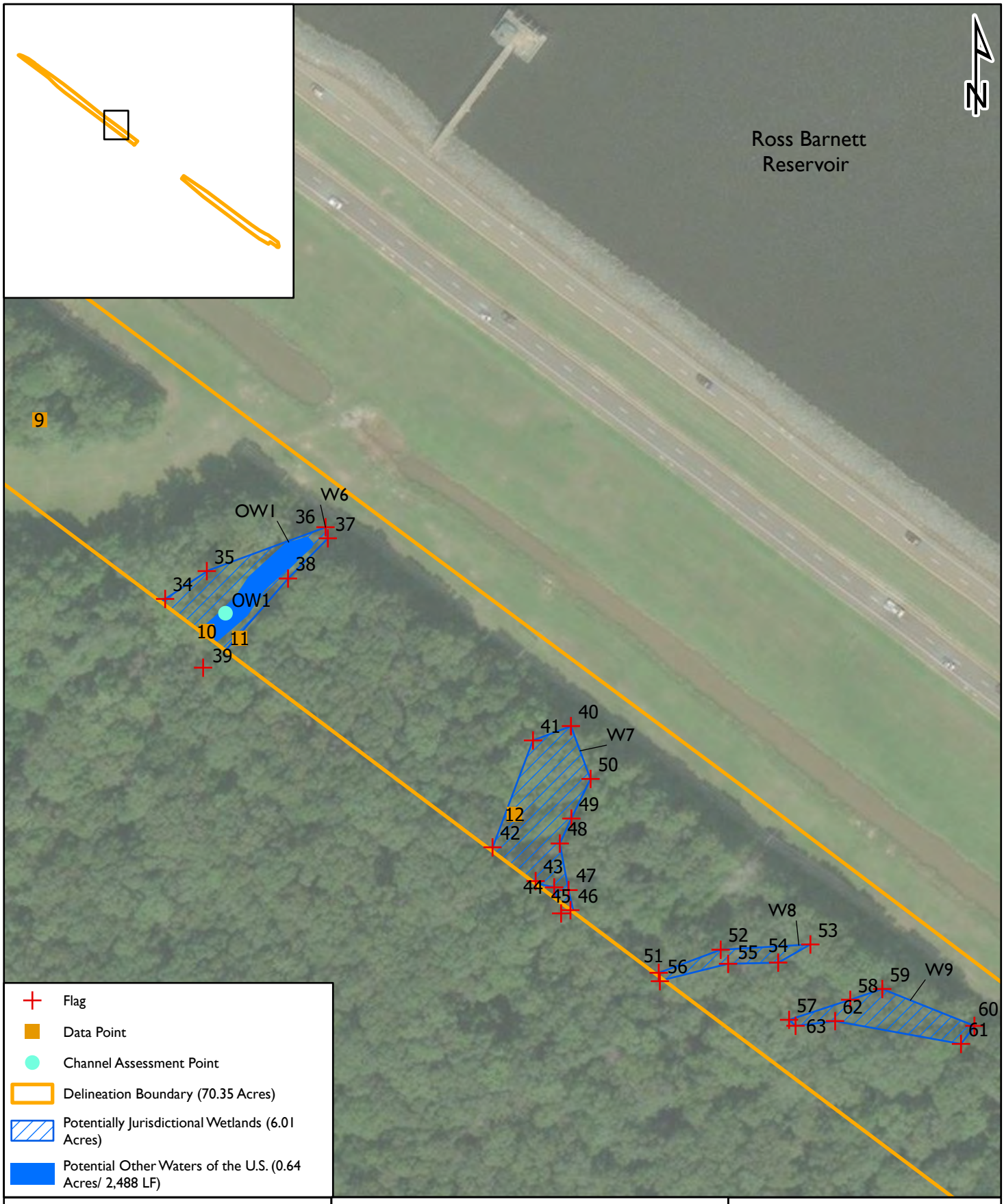
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-5



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

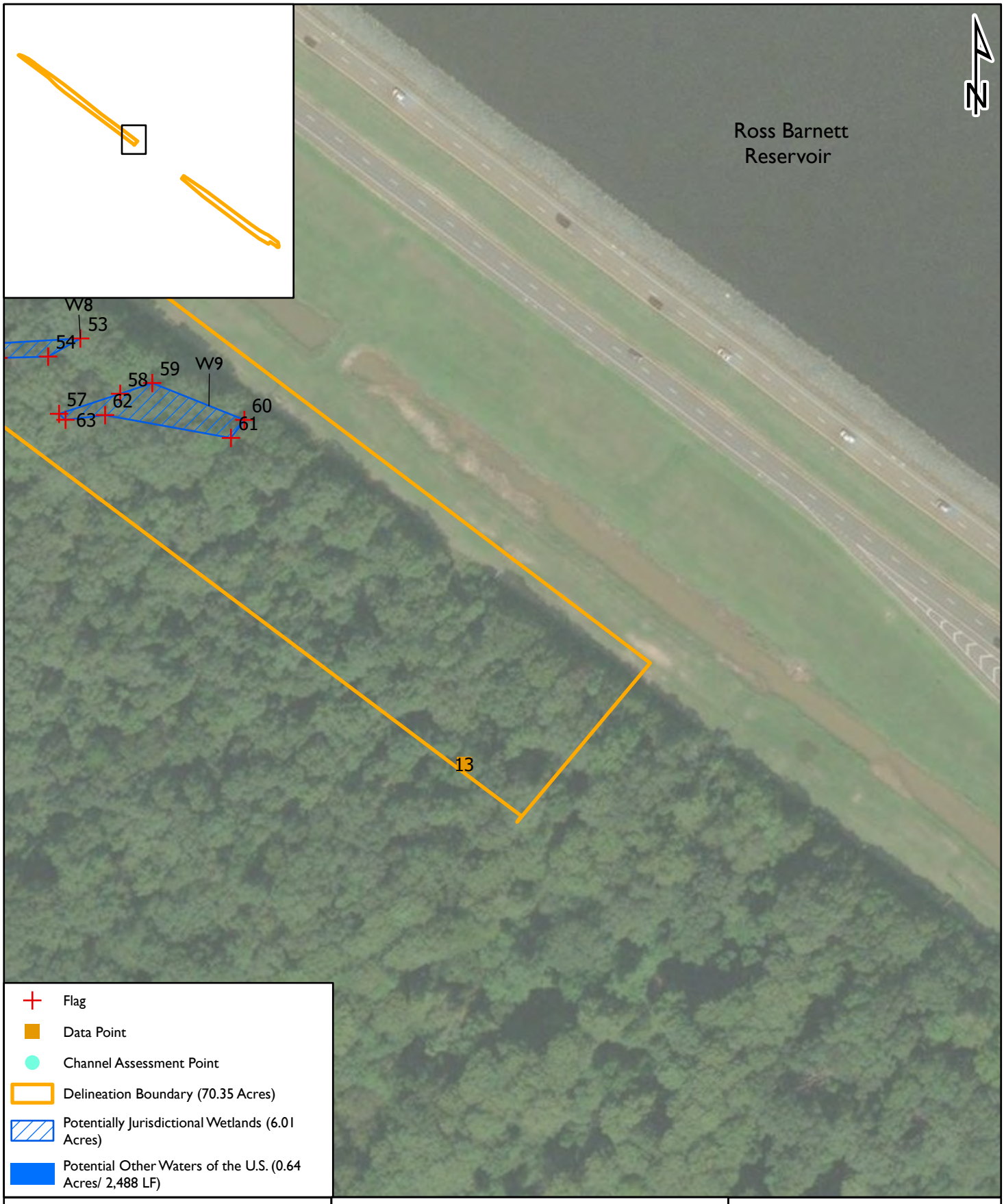
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-6



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

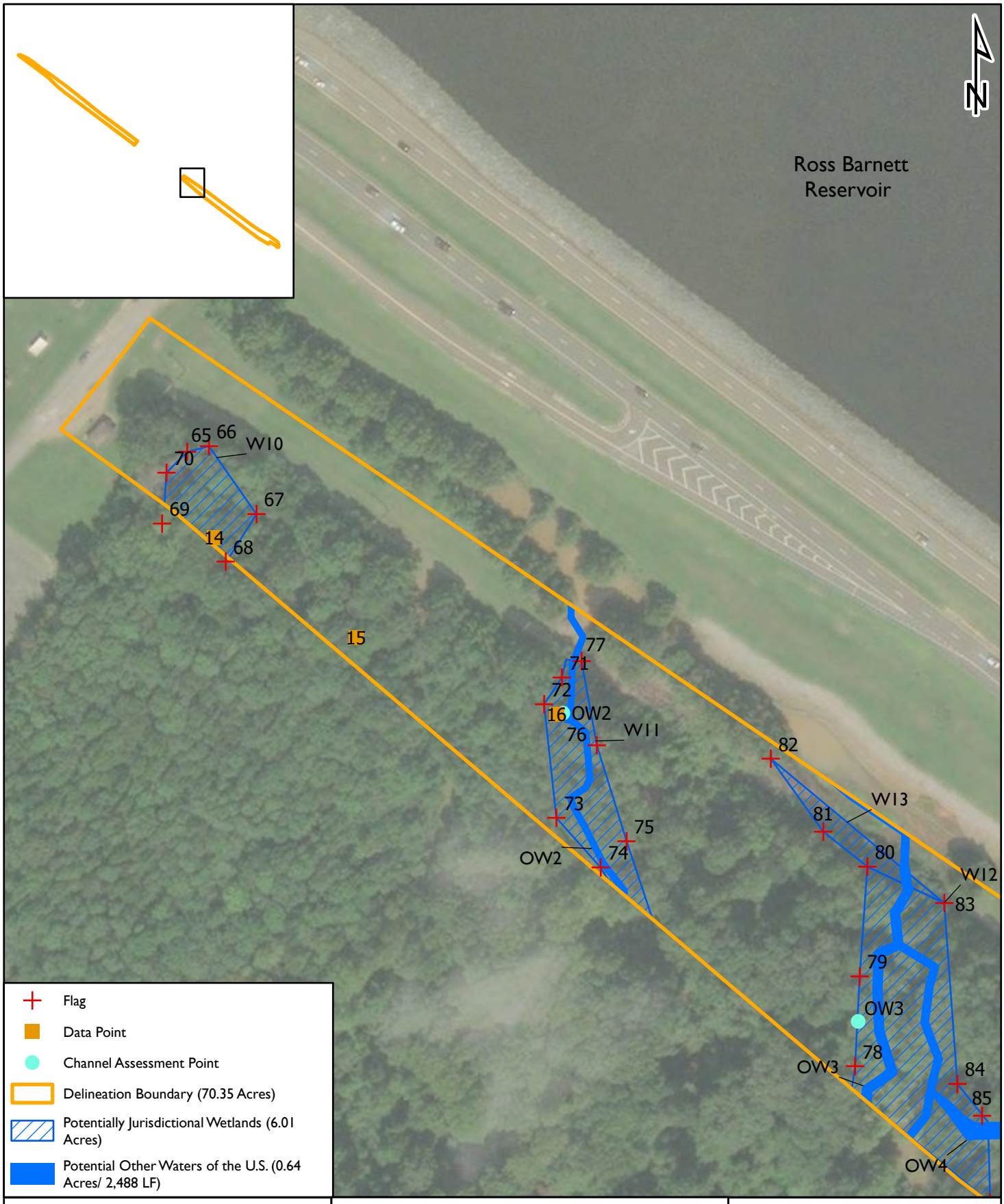
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS
Environment & Infrastructure

Date: 7/25/2023

FIGURE B-7



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

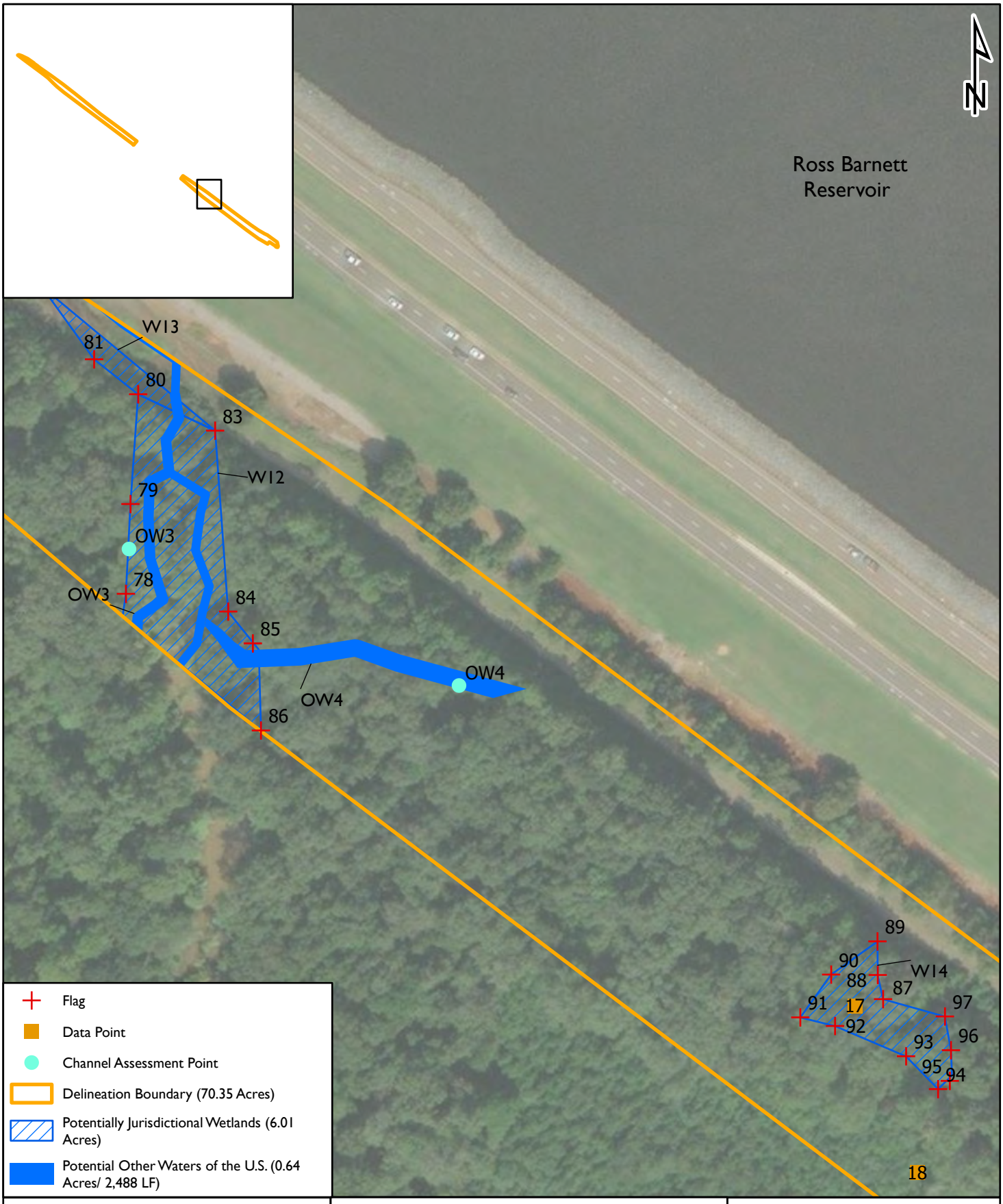
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-8



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

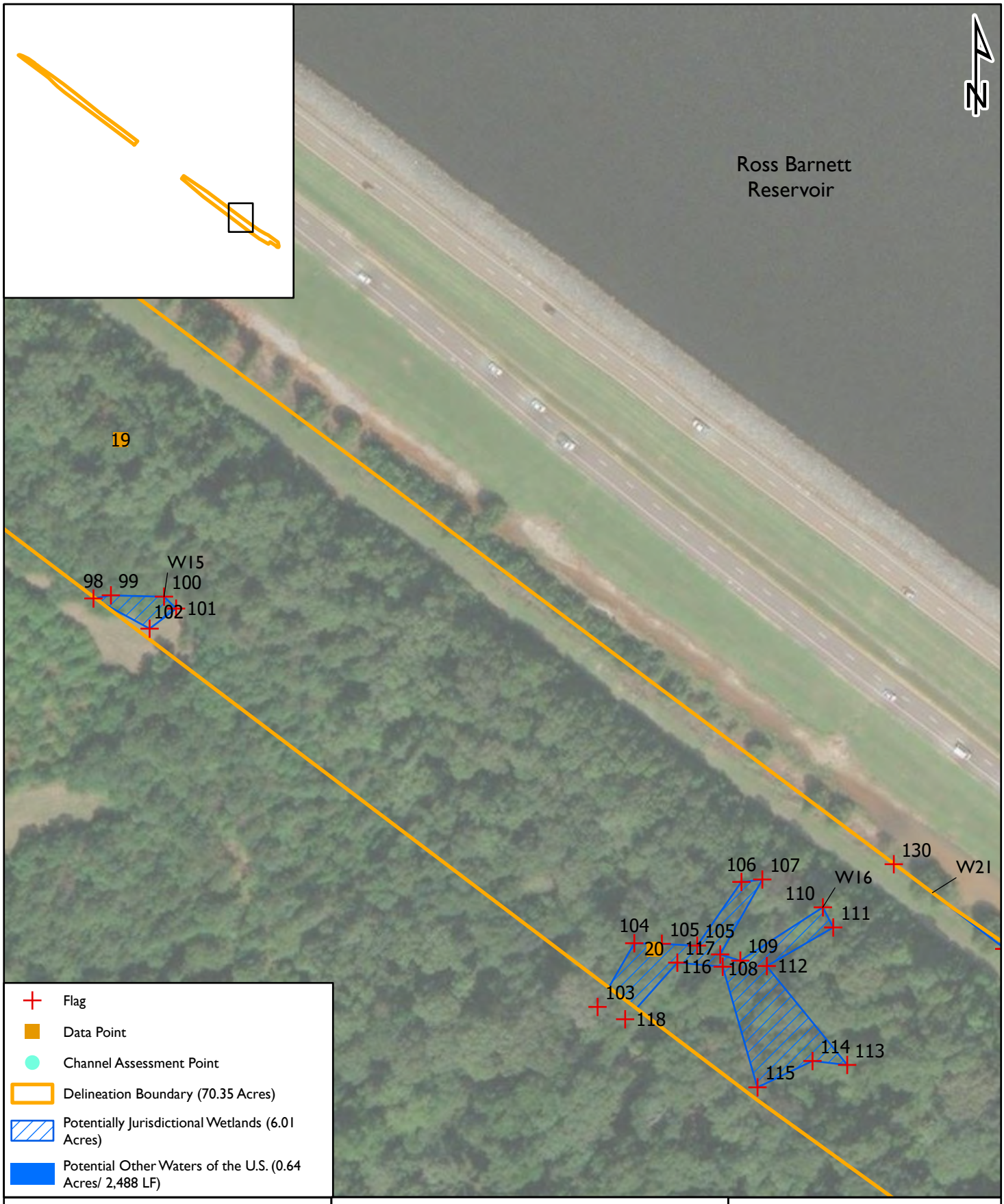
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-9



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

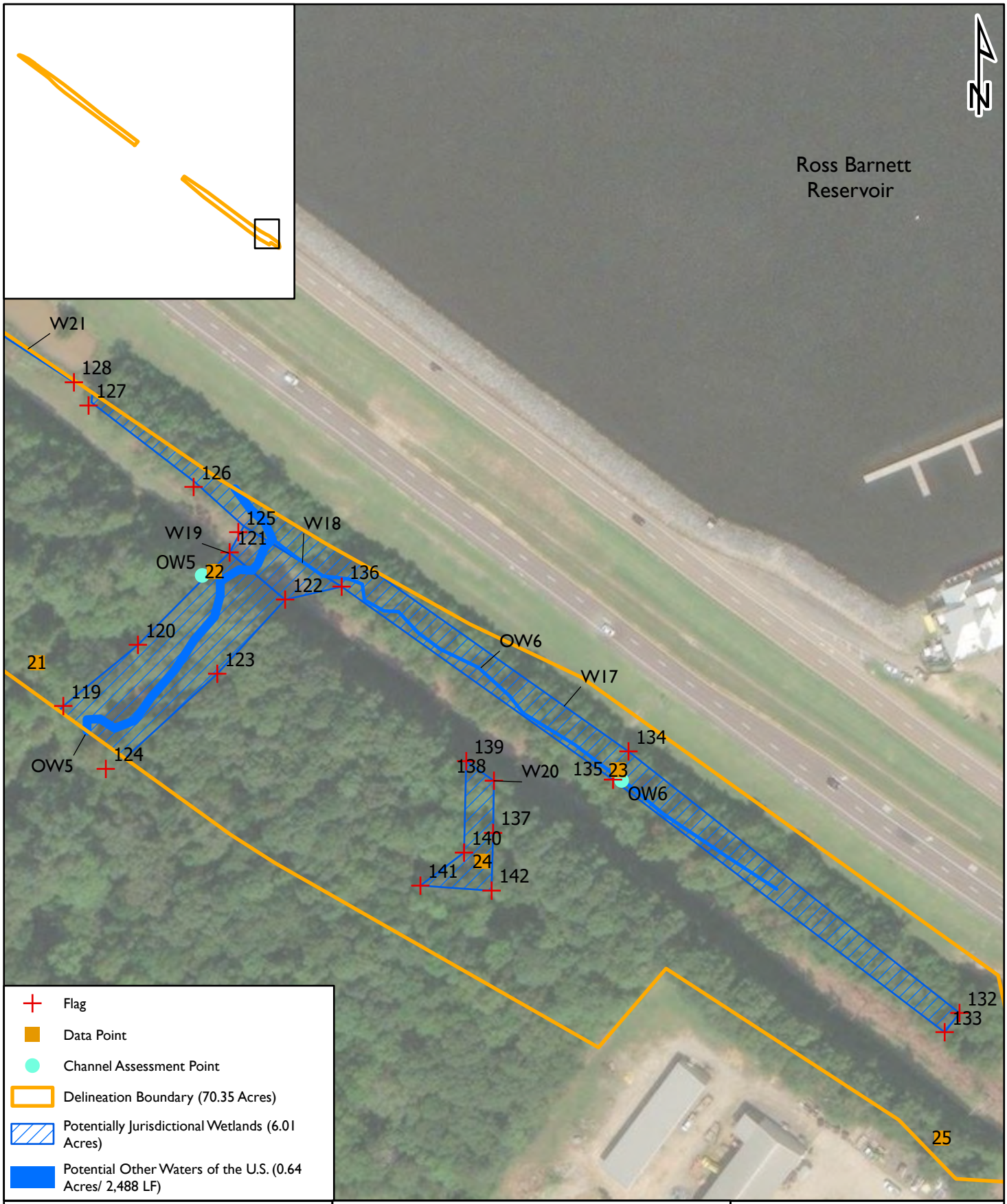
Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-10



MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

DETAILED WETLANDS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE B-11

Wetland Determination Data Forms- Atlantic and Gulf Coastal Plain Region and Photos

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 11, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP1

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Slough Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.41145 Long: -90.08875 Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- **X** High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- **X** Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- **X** Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches): **1**	**Wetland Hydrology Present?**	**Yes X** **No**
Water Table Present?	Yes **X**	No	Depth (inches): **0**		
Saturation Present?	Yes **X**	No	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-1	10YR 5/2	95	10YR 4/6	5	C	M	Silt Loam	
1-12	10YR 6/1	80	10YR 5/6	20	C	PL	Silt Loam	
12-16	10YR 6/2	70	10YR 5/6	30	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP1**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Ludwigia repens*	20	Yes	OBL
2. *Paspalum dilatatum*	10	Yes	FAC
3. *Ludwigia palustris*	5	No	OBL
4. *Saururus cernuus*	5	No	OBL
5. *Cyperus virens*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		
50% of total cover:	22.5	20% of total cover:	9
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x 1 =	**30**
FACW species	**5**	x 2 =	**10**
FAC species	**10**	x 3 =	**30**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**45** (A)		**70** (B)

Prevalence Index = B/A = **1.56**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
1

Date:
07/11/2023

Description:
Wetland determination Data Point 1 looking west.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
2

Date:
07/11/2023

Description:
Wetland determination Data Point 1 looking east.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 11, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP2

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Plane Local relief (concave, convex, none): Linear Slope Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.41130 Long: -90.08861 Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	7.5YR 3/3	100	None	—	—	—	Silt Loam	
3-16	10YR 4/6	100	None	—	—	—	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP2**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Prunus serotina*	30	Yes	FACU
2. *Quercus stellata*	15	Yes	UPL
3. *Fraxinus pennsylvanica*	10	No	FACW
4. *Cercis canadensis*	10	No	UPL
5. *Quercus nigra*	5	No	FAC
6. *Ostrya virginiana*	5	No	FACU
	75 = Total Cover		
50% of total cover: 37.5		20% of total cover: 15	
Sapling Stratum (Plot size: 30 ft.)			
1. *Cercis canadensis*	5	Yes	UPL
2. *Carya tomentosa*	3	Yes	UPL
3. *Ostrya virginiana*	2	Yes	FACU
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5		20% of total cover: 2	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Lackeya multiflora*	15	Yes	FAC
2. *Chasmanthium sessiliflorum*	15	Yes	FAC
3. *Parthenocissus quinquefolia*	8	No	FACU
4. *Cercis canadensis*	5	No	UPL
5. *Matelea carolinensis*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
	48 = Total Cover		
50% of total cover: 24		20% of total cover: 9.6	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Smilax rotundifolia*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5		20% of total cover: 1	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **38%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**10**	x 2 =	**20**
FAC species	**40**	x 3 =	**120**
FACU species	**45**	x 4 =	**180**
UPL species	**43**	x 5 =	**215**
Column Totals:	**138** (A)		**535** (B)

Prevalence Index = B/A = **3.88**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location: Jackson, Madison County, MS	
Photo No: 3	
Date: 07/11/2023	
Description: Wetland determination Data Point 2 looking east.	

Site: Bob Anthony Parkway Relocation

Location: Jackson, Madison County, MS	
Photo No: 4	
Date: 07/11/2023	
Description: Wetland determination Data Point 2 looking west.	

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP3

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 5-10

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40507 | Long: -90.07940 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area within a Wetland?** Yes **X** No
Wetland Hydrology Present?	Yes **X**	No	

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- **X** Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**
Saturation Present?	Yes	No **X**	Depth (inches): **>16**

Wetland Hydrology Present? Yes **X** No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	90	7.5YR 4/6	5	C	M	Silt Loam	
			7.5YR 4/6	5	C	PL		
4-16	10YR 6/1	90	7.5YR 4/6	5	C	M		
			7.5YR 4/6	5	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP3**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus nigra*	30	Yes	FAC
2. *Triadica sebifera*	25	Yes	FAC
3. *Quercus phellos*	15	Yes	FACW
4. *Liquidambar styraciflua*	5	No	FAC
5.			
6.			
	75 = Total Cover		
	50% of total cover: 37.5	20% of total cover: 15	
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
	50% of total cover: 7.5	20% of total cover: 3	
Shrub Stratum (Plot size: 30 ft.)			
1. *Ilex decidua*	5	Yes	FACW
2. *Quercus nigra*	5	Yes	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
	50% of total cover: 5	20% of total cover: 2	
Herb Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	10	Yes	FAC
2. *Brunnichia ovata*	5	Yes	FACW
3. *Persicaria hydropiperoides*	5	Yes	OBL
4. *Sabal minor*	5	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		
	50% of total cover: 12.5	20% of total cover: 5	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **10** (A)

Total Number of Dominant Species Across All Strata: **10** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**5**	x 1 =	**5**
FACW species	**30**	x 2 =	**60**
FAC species	**90**	x 3 =	**270**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**125** (A)		**335** (B)

Prevalence Index = B/A = **2.68**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
5

Date:
07/12/2023

Description:
Wetland determination Data Point 3 looking west.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
6

Date:
07/12/2023

Description:
Wetland determination Data Point 3 looking south-southeast.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 11, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP4

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.40796 Long: -90.08347 Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- High Water Table (A2)
- **X** Saturation (A3)
- Water Marks (B1)
- **X** Sediment Deposits (B2)
- Drift Deposits (B3)
- **X** Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches): **1**	**Wetland Hydrology Present?**	**Yes X** **No**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes **X**	No	Depth (inches): **0**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features				Texture	Remarks
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 5/1	75	10YR 5/8	15	C	M	Silt Loam	
			10YR 4/6	10	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP4**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	20	Yes	FAC
2. *Boehmeria cylindrica*	10	Yes	FACW
3. *Justicia ovata*	5	No	OBL
4. *Rhynchospora corniculata*	5	No	OBL
5. *Triadica sebifera*	5	No	FAC
6. *Callicarpa americana*	2	No	FACU
7.			
8.			
9.			
10.			
11.			
	47 = Total Cover		
50% of total cover:	23.5	20% of total cover:	9.4
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**10**	x 1 =	**10**
FACW species	**10**	x 2 =	**20**
FAC species	**25**	x 3 =	**75**
FACU species	**2**	x 4 =	**8**
UPL species	**0**	x 5 =	**0**
Column Totals:	**47** (A)		**113** (B)

Prevalence Index = B/A = **2.40**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
7

Date:
07/11/2023

Description:
Wetland determination Data Point 4 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
8

Date:
07/11/2023

Description:
Wetland determination Data Point 4 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 11, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP5

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Plane | Local relief (concave, convex, none): Linear Slope | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40788 | Long: -90.08301 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/3	85	10YR 5/2	10	D	M	Silt Loam	
			10YR 3/6	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP5**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus stellata*	20	Yes	UPL
2. *Pinus glabra*	15	Yes	FACW
3. *Carya glabra*	10	No	FACU
4. *Pinus echinata*	10	No	UPL
5. *Juniperus virginiana*	5	No	FACU
6. *Ostrya virginiana*	5	No	FACU
	65 = Total Cover		
50% of total cover: 32.5		20% of total cover: 13	
Sapling Stratum (Plot size: 30 ft.)			
1. *Carya glabra*	10	Yes	FACU
2. *Ostrya virginiana*	5	Yes	FACU
3. *Acer rubrum*	3	No	FAC
4. *Celtis laevigata*	3	No	FACW
5.			
6.			
	21 = Total Cover		
50% of total cover: 10.5		20% of total cover: 4.2	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	50	Yes	FAC
2. *Taxodium distichum*	1	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	51 = Total Cover		
50% of total cover: 25.5		20% of total cover: 10.2	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Vitis rotundifolia*	1	Yes	FAC
2.			
3.			
4.			
5.			
	1 = Total Cover		
50% of total cover: 0.5		20% of total cover: 0.2	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**1**	x 1 =	**1**
FACW species	**18**	x 2 =	**36**
FAC species	**54**	x 3 =	**162**
FACU species	**35**	x 4 =	**140**
UPL species	**30**	x 5 =	**150**
Column Totals:	**138** (A)		**489** (B)

Prevalence Index = B/A = **3.54**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
9

Date:
07/11/2023

Description:
Wetland determination Data Point 5 looking west-northwest.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
10

Date:
07/11/2023

Description:
Wetland determination Data Point 5 looking south-southeast.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 11, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP6

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40715 | Long: -90.08207 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- Aquatic Fauna (B13)
- High Water Table (A2)
- Marl Deposits (B15) **(LRR U)**
- Saturation (A3)
- Hydrogen Sulfide Odor (C1)
- Water Marks (B1)
- **X** Oxidized Rhizospheres on Living Roots(C3)
- Sediment Deposits (B2)
- Presence of Reduced Iron (C4)
- Drift Deposits (B3)
- Recent Iron Reduction in Tilled Soils (C6)
- Algal Mat or Crust (B4)
- Thin Muck Surface (C7)
- Iron Deposits (B5)
- Other (Explain in Remarks)
- Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- **X** Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches): **18**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**
Saturation Present?	Yes	No **X**	Depth (inches): **>16**

Wetland Hydrology Present? Yes **X** No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 6/1	90	10YR 6/8	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP6**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Nyssa aquatica*	60	Yes	OBL
2. *Taxodium distichum*	10	No	OBL
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: 35		20% of total cover: 14	
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	25	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5		20% of total cover: 5	
Shrub Stratum (Plot size: 30 ft.)			
1. *Itea virginica*	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover: 4	
Herb Stratum (Plot size: 30 ft.)			
1. *Saururus cernuus*	30	Yes	OBL
2. *Osmunda spectabilis*	20	Yes	OBL
3. *Taxodium distichum*	2	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	52 = Total Cover		
50% of total cover: 26		20% of total cover: 10.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**122**	x 1 =	**122**
FACW species	**20**	x 2 =	**40**
FAC species	**25**	x 3 =	**75**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**167** (A)		**237** (B)

Prevalence Index = B/A = **1.42**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
11

Date:
07/11/2023

Description:
Wetland determination Data Point 6 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
12

Date:
07/11/2023

Description:
Wetland determination Data Point 6 looking west-southwest.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 11, 2023
Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP7
Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S34, T7N, R2E
Landform (hillslope, terrace, etc.): Plane Local relief (concave, convex, none): Convex Slope (%): 0-5
Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.40668 Long: -90.08189 Datum: NAD 83
Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: PFO1A
Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)
Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No
Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:
This point was determined not to be within a wetland due to the lack of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/3	100	None	—	—	—	Silt Loam	
2-16	10YR 5/4	100	None	—	—	—	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):
Type:
Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:
No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP7**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus falcata*	15	Yes	FACU
2. *Quercus nigra*	10	Yes	FAC
3. *Quercus stellata*	10	Yes	UPL
4.			
5.			
6.			
	35 = Total Cover		
	50% of total cover: 17.5	20% of total cover: 7	
Sapling Stratum (Plot size: 30 ft.)			
1. *Ostrya virginiana*	20	Yes	FACU
2. *Carya tomentosa*	15	Yes	UPL
3.			
4.			
5.			
6.			
	35 = Total Cover		
	50% of total cover: 17.5	20% of total cover: 7	
Shrub Stratum (Plot size: 30 ft.)			
1. *Vaccinium arboreum*	3	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover: 0.6	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	10	Yes	FAC
2. *Smilax pumila*	2	No	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	12 = Total Cover		
	50% of total cover: 6	20% of total cover: 2.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **29%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**20**	x 3 =	**60**
FACU species	**38**	x 4 =	**152**
UPL species	**27**	x 5 =	**135**
Column Totals:	**85** (A)		**347** (B)

Prevalence Index = B/A = **4.08**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
13

Date:
07/11/2023

Description:
Wetland determination Data Point 7 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
14

Date:
07/11/2023

Description:
Wetland determination Data Point 7 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP8

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane | Local relief (concave, convex, none): Convex | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40512 | Long: -90.07952 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**
Hydric Soil Present?	Yes **X**	No
Wetland Hydrology Present?	Yes	No **X**

Is the Sampled Area within a Wetland? Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**
Saturation Present?	Yes	No **X**	Depth (inches): **>16**

Wetland Hydrology Present? Yes No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/3	100	None	—	—	—	Silt Loam	
2-6	10YR 6/2	95	7.5YR 5/8	5	C	M	Silt Loam	
6-16	7.5YR 7/1	95	7.5YR 5/8	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP8**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus falcata*	30	Yes	FACU
2. *Liquidambar styraciflua*	30	Yes	FAC
3. *Ostrya virginiana*	20	Yes	FACU
4.			
5.			
6.			
	80 = Total Cover		
	50% of total cover: 40	20% of total cover: 16	
Sapling Stratum (Plot size: 30 ft.)			
1. *Ostrya virginiana*	3	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover: 0.6	
Shrub Stratum (Plot size: 30 ft.)			
1. *Vaccinium arboreum*	5	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover: 1	
Herb Stratum (Plot size: 30 ft.)			
1. *Sabal minor*	10	Yes	FACW
2. *Arundinaria tecta*	5	Yes	FACW
3. *Triadica sebifera*	3	No	FAC
4. *Vaccinium arboreum*	2	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
	50% of total cover: 10	20% of total cover: 4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Toxicodendron radicans*	2	Yes	FAC
2.			
3.			
4.			
5.			
	2 = Total Cover		
	50% of total cover: 1	20% of total cover: 0.4	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**15**	x 2 =	**30**
FAC species	**35**	x 3 =	**105**
FACU species	**60**	x 4 =	**240**
UPL species	**0**	x 5 =	**0**
Column Totals:	**110** (A)		**375** (B)

Prevalence Index = B/A = **3.41**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
15

Date:
07/12/2023

Description:
Wetland determination Data Point 8 looking north.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
16

Date:
07/12/2023

Description:
Wetland determination Data Point 8 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP9

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane Local relief (concave, convex, none): Linear Slope Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.40294 Long: -90.07576 Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No
Hydric Soil Present?	Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**

Is the Sampled Area within a Wetland? Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches):	**N/A**	
Water Table Present?	Yes	No **X**	Depth (inches):	**>16**	
Saturation Present?	Yes	No **X**	Depth (inches):	**>16**	

Wetland Hydrology Present? Yes No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/4	98	7.5YR 4/6	2	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP9**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Carya glabra*	30	Yes	FACU
2. *Quercus stellata*	25	Yes	UPL
3. *Pinus taeda*	20	Yes	FAC
4. *Acer rubrum*	10	No	FAC
5. *Liquidambar styraciflua*	5	No	FAC
6.			
	90 = Total Cover		
50% of total cover: 45		20% of total cover: 18	
Sapling Stratum (Plot size: 30 ft.)			
1. *Quercus nigra*	3	Yes	FAC
2. *Nyssa sylvatica*	3	Yes	FAC
3.			
4.			
5.			
6.			
	6 = Total Cover		
50% of total cover: 3		20% of total cover: 1.2	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	50	Yes	FAC
2. *Arundinaria tecta*	5	No	FACW
3. *Lackeya multiflora*	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	57 = Total Cover		
50% of total cover: 28.5		20% of total cover: 11.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Toxicodendron radicans*	2	Yes	FAC
2.			
3.			
4.			
5.			
	2 = Total Cover		
50% of total cover: 1		20% of total cover: 0.4	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **7** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **71%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**5**	x 2 =	**10**
FAC species	**95**	x 3 =	**285**
FACU species	**30**	x 4 =	**120**
UPL species	**25**	x 5 =	**125**
Column Totals:	**155** (A)		**540** (B)

Prevalence Index = B/A = **3.48**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
17

Date:
07/12/2023

Description:
Wetland determination Data Point 9 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
18

Date:
07/12/2023

Description:
Wetland determination Data Point 9 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP10

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Depression/ Slough | Local relief (concave, convex, none): Concave | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40227 | Long: -90.07514 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- High Water Table (A2)
- **X** Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches):	**6**	**Wetland Hydrology Present?** Yes **X** No
Water Table Present?	Yes	No **X**	Depth (inches):	**>16**	
Saturation Present?	Yes **X**	No	Depth (inches):	**0**	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	20	7.5YR 4/6	80	C	M	Silt Loam	
3-7	10YR 2/1	97	10YR 3/6	3	C	M	Silt Loam	Heavy organic matter
7-16	10YR 6/2	90	10YR 5/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- **X** Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- **X** Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP10**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Nyssa aquatica*	70	Yes	OBL
2. *Taxodium distichum*	15	No	OBL
3.			
4.			
5.			
6.			
	85 = Total Cover		
	50% of total cover: 42.5	20% of total cover:	17
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Shrub Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Herb Stratum (Plot size: 30 ft.)			
1. *Saururus cernuus*	25	Yes	OBL
2. *Triadica sebifera*	3	No	FAC
3. *Persicaria hydropiperoides*	3	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	31 = Total Cover		
	50% of total cover: 15.5	20% of total cover:	6.2
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**113**	x 1 =	**113**
FACW species	**0**	x 2 =	**0**
FAC species	**13**	x 3 =	**39**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**126** (A)		**152** (B)

Prevalence Index = B/A = **1.21**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location: Jackson, Madison County, MS	
Photo No: 19	
Date: 07/12/2023	
Description: Wetland determination Data Point 10 looking east-northeast.	

Site: Bob Anthony Parkway Relocation

Location: Jackson, Madison County, MS	
Photo No: 20	
Date: 07/12/2023	
Description: Wetland determination Data Point 10 looking west.	

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP11

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S34, T7N, R2E

Landform (hillslope, terrace, etc.): Hillslope | Local relief (concave, convex, none): Linear Slope | Slope (%): 5-10

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40225 | Long: -90.07502 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No
Hydric Soil Present?	Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**

Is the Sampled Area within a Wetland? Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**
Saturation Present?	Yes	No **X**	Depth (inches): **>16**

Wetland Hydrology Present? Yes No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	7.5YR 3/4	100	None	—	—	—	Silt Loam	
10-16	7.5YR 7/3	50					Sandy Loam	
	7.5YR 6/6	50						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP11**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Ilex glabra*	10	Yes	FACW
2. *Carpinus caroliniana*	10	Yes	FAC
3.			
4.			
5.			
6.			
	20 = Total Cover		
	50% of total cover: 10	20% of total cover:	4
Sapling Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
	50% of total cover:	20% of total cover:	
Shrub Stratum (Plot size: 30 ft.)			
1. *Halesia diptera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Herb Stratum (Plot size: 30 ft.)			
1. *Arundinaria tecta*	15	Yes	FACW
2. *Triadica sebifera*	3	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	18 = Total Cover		
	50% of total cover: 9	20% of total cover:	3.6
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**25**	x 2 =	**50**
FAC species	**18**	x 3 =	**54**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**43** (A)		**104** (B)

Prevalence Index = B/A = **2.42**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
21

Date:
07/12/2023

Description:
Wetland determination Data Point 11 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
22

Date:
07/12/2023

Description:
Wetland determination Data Point 11 looking east.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Madison | Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP12

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S35, T7N, R2E

Landform (hillslope, terrace, etc.): Depression | Local relief (concave, convex, none): Concave | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.40169 | Long: -90.07401 | Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- **X** Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- **X** Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches): **N/A**
Water Table Present?	Yes ___	No **X**	Depth (inches): **>16**
Saturation Present?	Yes	No **X**	Depth (inches): **>16**

Wetland Hydrology Present? Yes **X** No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100	None	—	—	—	Silt Loam	
1-16	10YR 5/2	88	7.5YR 4/6	2	C	M	Silt Loam	
			10YR 5/8	5	C	M		
			10YR 5/8	5	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- **X** Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP12**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Nyssa aquatica*	20	Yes	OBL
2. *Quercus phellos*	15	Yes	FACW
3. *Ulmus americana*	10	No	FAC
4. *Liquidambar styraciflua*	10	No	FAC
5.			
6.			
	55 = Total Cover		
	50% of total cover: 27.5	20% of total cover:	11
Sapling Stratum (Plot size: 30 ft.)			
1. *Ilex decidua*	3	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover:	0.6
Shrub Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	1	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	1 = Total Cover		
	50% of total cover: 0.5	20% of total cover:	0.2
Herb Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
	50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Toxicodendron radicans*	2	Yes	FAC
2.			
3.			
4.			
5.			
	2 = Total Cover		
	50% of total cover: 1	20% of total cover:	0.4

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**20**	x 1 =	**20**
FACW species	**18**	x 2 =	**36**
FAC species	**23**	x 3 =	**69**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**61** (A)		**125** (B)

Prevalence Index = B/A = **2.05**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
23

Date:
07/12/2023

Description:
Wetland determination Data Point 12 looking west.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
24

Date:
07/12/2023

Description:
Wetland determination Data Point 12 looking east-northeast.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Madison Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP13

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane Local relief (concave, convex, none): Convex Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39995 Long: -90.07150 Datum: NAD 83

Soil Map Unit Name: Cascilla-Calhoun association NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/4	100	None	—	—	—	Silt Loam	
3-12	10YR 4/4	100	None	—	—	—	Silt Loam	
12-16	10YR 6/6	100	None	—	—		Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP13**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Carya glabra*	80	Yes	FACU
2. *Quercus pagoda*	15	No	FAC
3.			
4.			
5.			
6.			
	95 = Total Cover		
50% of total cover: 47.5		20% of total cover: 19	
Sapling Stratum (Plot size: 30 ft.)			
1. *Carya glabra*	5	Yes	FACU
2. *Ilex decidua*	3	Yes	FACW
3.			
4.			
5.			
6.			
	8 = Total Cover		
50% of total cover: 4		20% of total cover: 1.6	
Shrub Stratum (Plot size: 30 ft.)			
1. *Callicarpa americana*	2	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	2 = Total Cover		
50% of total cover: 1		20% of total cover: 0.4	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	80	Yes	FAC
2. *Arundinaria tecta*	15	No	FACW
3. *Lackeya multiflora*	15	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	110 = Total Cover		
50% of total cover: 55		20% of total cover: 22	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **2** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **40%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**18**	x 2 =	**36**
FAC species	**110**	x 3 =	**330**
FACU species	**87**	x 4 =	**348**
UPL species	**0**	x 5 =	**0**
Column Totals:	**215** (A)		**714** (B)

Prevalence Index = B/A = **3.32**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
25

Date:
07/12/2023

Description:
Wetland determination Data Point 13 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
26

Date:
07/12/2023

Description:
Wetland determination Data Point 13 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP14

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Depression/Slough Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39504 Long: -90.06349 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches):	**2**	**Wetland Hydrology Present?** **Yes X** **No**
Water Table Present?	Yes	No **X**	Depth (inches):	**>16**	
Saturation Present?	Yes **X**	No	Depth (inches):	**0**	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	5BG 4/1	30	5Y 5/1	50	D	M	Sandy Loam	
			7.5YR 5/6	20	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- **X** Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP14**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Celtis laevigata*	70	Yes	FACW
2. *Fraxinus pennsylvanica*	15	No	FACW
3. *Taxodium distichum*	5	No	OBL
4. *Acer saccharinum*	5	No	FAC
5.			
6.			
	95 = Total Cover		
	50% of total cover: 47.5	20% of total cover: 19	
Sapling Stratum (Plot size: 30 ft.)			
1. *Celtis laevigata*	5	Yes	FACW
2. *Asimina triloba*	5	Yes	FAC
3. *Halesia diptera*	5	Yes	FAC
4.			
5.			
6.			
	15 = Total Cover		
	50% of total cover: 7.5	20% of total cover: 3	
Shrub Stratum (Plot size: 30 ft.)			
1. *Asimina triloba*	3	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover: 0.6	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium latifolium*	30	Yes	FAC
2. *Boehmeria cylindrica*	3	No	FACW
3. *Parthenocissus quinquefolia*	2	No	FACU
4. *Triadica sebifera*	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	37 = Total Cover		
	50% of total cover: 18.5	20% of total cover: 7.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Dioscorea bulbifera*	6	Yes	UPL
2. *Toxicodendron radicans*	4	Yes	FAC
3. *Brunnichia ovata*	2	No	FACW
4.			
5.			
	12 = Total Cover		
	50% of total cover: 6	20% of total cover: 2.4	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **7** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **88%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:			Multiply by:
OBL species	**5**	x 1 =	**5**
FACW species	**95**	x 2 =	**190**
FAC species	**54**	x 3 =	**162**
FACU species	**2**	x 4 =	**8**
UPL species	**6**	x 5 =	**30**
Column Totals:	**162** (A)		**395** (B)

Prevalence Index = B/A = **2.44**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
27

Date:
07/12/2023

Description:
Wetland determination Data Point 14 looking west.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
28

Date:
07/12/2023

Description:
Wetland determination Data Point 14 looking south.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 12, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP15

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Plane Local relief (concave, convex, none): Linear Slope Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39473 Long: -90.06296 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No
Hydric Soil Present?	Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**

Is the Sampled Area within a Wetland? Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches):	**N/A**
Water Table Present?	Yes	No **X**	Depth (inches):	**>16**
Saturation Present?	Yes	No **X**	Depth (inches):	**>16**

Wetland Hydrology Present? Yes No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/4	100	None	—	—	—	Silt Loam	
4-16	10YR 5/4	80					Silt Loam	
	10YR 5/6	20						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP15**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Celtis laevigata*	40	Yes	FACW
2. *Taxodium distichum*	30	Yes	OBL
3. *Ulmus americana*	5	No	FAC
4.			
5.			
6.			
	75 = Total Cover		
	50% of total cover: 37.5	20% of total cover: 15	
Sapling Stratum (Plot size: 30 ft.)			
1. *Celtis laevigata*	3	Yes	FACW
2. *Ulmus americana*	2	Yes	FAC
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover: 1	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
	50% of total cover:	20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *Carex cherokeensis*	10	Yes	FACW
2. *Oplismenus hirtellus*	10	Yes	FAC
3. *Triadica sebifera*	5	No	FAC
4. *Boehmeria cylindrica*	5	No	FACW
5. *Callicarpa americana*	5	No	FACU
6. *Chasmanthium latifolium*	2	No	FAC
7.			
8.			
9.			
10.			
11.			
	37 = Total Cover		
	50% of total cover: 18.5	20% of total cover: 7.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**30**	x 1 =	**30**
FACW species	**58**	x 2 =	**116**
FAC species	**24**	x 3 =	**72**
FACU species	**5**	x 4 =	**20**
UPL species	**0**	x 5 =	**0**
Column Totals:	**117** (A)		**238** (B)

Prevalence Index = B/A = **2.03**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Rankin | Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP16

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Bottom | Local relief (concave, convex, none): Concave | Slope (%): 5-10

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.39448 | Long: -90.06222 | Datum: NAD 83

Soil Map Unit Name: Water | NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- **X** High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- **X** Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- **X** Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches):	**N/A**	
Water Table Present?	Yes **X**	No	Depth (inches):	**8**	**Wetland Hydrology Present?** Yes **X** No
Saturation Present?	Yes	No **X**	Depth (inches):	**>16**	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/1	90	7.5YR 4/6	10	C	M	Silt Loam	Heavy organic material
2-8	10YR 6/1	70	7.5YR 4/6	30	C	M	Silt Loam	
8-16	5Y 5/1	90	7.5YR 5/8	10	C	M	Silt Loam	Splotch pattern

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP16**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Taxodium distichum*	60	Yes	OBL
2. *Triadica sebifera*	10	No	FAC
3. *Betula nigra*	10	No	FACW
4.			
5.			
6.			
	80 = Total Cover		
	50% of total cover: 40	20% of total cover:	16
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2. *Taxodium distichum*	2	Yes	OBL
3.			
4.			
5.			
6.			
	7 = Total Cover		
	50% of total cover: 3.5	20% of total cover:	1.4
Shrub Stratum (Plot size: 30 ft.)			
1. *Taxodium distichum*	2	Yes	OBL
2.			
3.			
4.			
5.			
6.			
	2 = Total Cover		
	50% of total cover: 1	20% of total cover:	0.4
Herb Stratum (Plot size: 30 ft.)			
1. *Saururus cernuus*	3	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover:	0.6
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**67**	x 1 =	**67**
FACW species	**10**	x 2 =	**20**
FAC species	**15**	x 3 =	**45**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**92** (A)		**132** (B)

Prevalence Index = B/A = **1.43**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
29

Date:
07/13/2023

Description:
Wetland determination Data Point 16 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
30

Date:
07/13/2023

Description:
Wetland determination Data Point 16 looking east.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP17

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Slight Depression Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39208 Long: -90.05843 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- **X** Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	**Yes X No**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least two secondary indicators).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	98	10YR 4/6	2	C	M	Silt Loam	
4-16	10YR 6/2	90	10YR 5/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes X No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP17**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus phellos*	50	Yes	FACW
2. *Ulmus americana*	10	No	FAC
3. *Quercus laurifolia*	3	No	FACW
4.			
5.			
6.			
	63 = Total Cover		
	50% of total cover: 31.5	20% of total cover:	12.6
Sapling Stratum (Plot size: 30 ft.)			
1. *Ilex decidua*	3	Yes	FACW
2. *Quercus pagoda*	2	Yes	FAC
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Shrub Stratum (Plot size: 30 ft.)			
1. *Nyssa sylvatica*	2	Yes	FAC
2. *Triadica sebifera*	1	Yes	FAC
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover:	0.6
Herb Stratum (Plot size: 30 ft.)			
1. *Carex cherokeensis*	2	Yes	FACW
2. *Brunnichia ovata*	2	Yes	FACW
3. *Triadica sebifera*	1	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **8** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**60**	x 2 =	**120**
FAC species	**16**	x 3 =	**48**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**76** (A)		**168** (B)

Prevalence Index = B/A = **2.21**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
31

Date:
07/13/2023

Description:
Wetland determination Data Point 17 looking east-northeast.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
32

Date:
07/13/2023

Description:
Wetland determination Data Point 17 looking north.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP18

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane Local relief (concave, convex, none): Convex Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39156 Long: -90.05820 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?**	**Yes** **No X**

Remarks:

This point was determined not to be within a wetland due to the lack of wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	**Yes** **No X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 5/2	95	7.5YR 4/6	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP18**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	85	Yes	FAC
2. *Ostrya virginiana*	8	No	FACU
3.			
4.			
5.			
6.			
	93 = Total Cover		
	50% of total cover: 46.5	20% of total cover:	18.6
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	10	Yes	FAC
2. *Ostrya virginiana*	8	Yes	FACU
3. *Quercus stellata*	3	No	UPL
4.			
5.			
6.			
	21 = Total Cover		
	50% of total cover: 10.5	20% of total cover:	4.2
Shrub Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2. *Callicarpa americana*	3	Yes	FACU
3.			
4.			
5.			
6.			
	8 = Total Cover		
	50% of total cover: 4	20% of total cover:	1.6
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	60	Yes	FAC
2. *Persicaria longiseta*	35	Yes	FAC
3. *Triadica sebifera*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
	50% of total cover: 50	20% of total cover:	20
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Brunnichia ovata*	2	Yes	FACW
2.			
3.			
4.			
5.			
	2 = Total Cover		
	50% of total cover: 1	20% of total cover:	0.4

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**2**	x 2 =	**4**
FAC species	**200**	x 3 =	**600**
FACU species	**19**	x 4 =	**76**
UPL species	**3**	x 5 =	**15**
Column Totals:	**224** (A)		**695** (B)

Prevalence Index = B/A = **3.10**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
33

Date:
07/13/2023

Description:
Wetland determination Data Point 18 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
34

Date:
07/13/2023

Description:
Wetland determination Data Point 18 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP19

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S02, T6N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.39079 Long: -90.05642 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No
Hydric Soil Present?	Yes	No **X**
Wetland Hydrology Present?	Yes	No **X**

Is the Sampled Area within a Wetland? Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches):	**N/A**	
Water Table Present?	Yes	No **X**	Depth (inches):	**>16**	
Saturation Present?	Yes	No **X**	Depth (inches):	**>16**	

Wetland Hydrology Present? Yes No **X**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 5/3	92	10YR 4/4	8	C	M	Silt Loam	
3-16	10YR 6/3	90	10YR 7/1	5	D	M	Silt Loam	
			10YR 5/4	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP19**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Carya tomentosa*	80	Yes	UPL
2. *Quercus michauxii*	10	No	FACW
3. *Quercus phellos*	5	No	FACW
4. *Carya glabra*	3	No	FACU
5.			
6.			
	98 = Total Cover		
	50% of total cover: 49	20% of total cover:	19.6
Sapling Stratum (Plot size: 30 ft.)			
1. *Carya tomentosa*	20	Yes	UPL
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
	50% of total cover: 10	20% of total cover:	4
Shrub Stratum (Plot size: 30 ft.)			
1. *Ilex decidua*	5	Yes	FACW
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Herb Stratum (Plot size: 30 ft.)			
1. *Arundinaria tecta*	5	Yes	FACW
2. *Carex cherokeensis*	3	Yes	FACW
3. *Chasmanthium sessiliflorum*	3	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	11 = Total Cover		
	50% of total cover: 5.5	20% of total cover:	2.2
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **6** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **67%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**28**	x 2 =	**56**
FAC species	**3**	x 3 =	**9**
FACU species	**3**	x 4 =	**12**
UPL species	**100**	x 5 =	**500**
Column Totals:	**134** (A)		**577** (B)

Prevalence Index = B/A = **4.31**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
35

Date:
07/13/2023

Description:
Wetland determination Data Point 19 looking south.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
36

Date:
07/13/2023

Description:
Wetland determination Data Point 19 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP20

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.38919 Long: -90.05445 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**
Wetland Hydrology Present?	Yes **X**	No		

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- **X** Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	**N/A**
Water Table Present?	Yes ___	No **X**	Depth (inches):	**>16**
Saturation Present?	Yes **X**	No	Depth (inches):	**0**

Wetland Hydrology Present? **Yes X** **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 6/1	85	10YR 5/6	15	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP20**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Quercus nigra*	35	Yes	FAC
2. *Celtis laevigata*	15	Yes	FACW
3. *Carpinus caroliniana*	5	No	FAC
4. *Ostrya virginiana*	5	No	FACU
5.			
6.			
	60 = Total Cover		
50% of total cover: 30		20% of total cover: 12	
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	20	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10		20% of total cover: 4	
Shrub Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	15	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5		20% of total cover: 3	
Herb Stratum (Plot size: 30 ft.)			
1. *Sabal minor*	10	Yes	FACW
2. *Arundinaria tecta*	10	Yes	FACW
3. *Triadica sebifera*	5	No	FAC
4. *Carex cherokeensis*	5	No	FACW
5. *Brunnichia ovata*	3	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	33 = Total Cover		
50% of total cover: 16.5		20% of total cover: 6.6	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Toxicodendron radicans*	3	Yes	FAC
2. *Brunnichia ovata*	2	Yes	FACW
3.			
4.			
5.			
	5 = Total Cover		
50% of total cover: 2.5		20% of total cover: 1	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **8** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**45**	x 2 =	**90**
FAC species	**83**	x 3 =	**249**
FACU species	**5**	x 4 =	**20**
UPL species	**0**	x 5 =	**0**
Column Totals:	**133** (A)		**359** (B)

Prevalence Index = B/A = **2.70**

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ___

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
37

Date:
07/13/2023

Description:
Wetland determination Data Point 20 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
38

Date:
07/13/2023

Description:
Wetland determination Data Point 20 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP21

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.38806 Long: -90.05285 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of hydric soils and wetland hydrology.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/4	100	None	—	—	—	Silt Loam	
3-16	10YR 5/4	99	10YR 5/6	1	C	PL	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP21**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	15	Yes	FAC
2. *Platanus occidentalis*	10	Yes	FACW
3.			
4.			
5.			
6.			
	25 = Total Cover		
50% of total cover: 12.5		20% of total cover: 5	
Sapling Stratum (Plot size: 30 ft.)			
1. *Carpinus caroliniana*	5	Yes	FAC
2. *Quercus stellata*	3	Yes	UPL
3. *Celtis laevigata*	1	No	FACW
4.			
5.			
6.			
	9 = Total Cover		
50% of total cover: 4.5		20% of total cover: 1.8	
Shrub Stratum (Plot size: 30 ft.)			
1. *Halesia diptera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5		20% of total cover: 1	
Herb Stratum (Plot size: 30 ft.)			
1. *Lackeya multiflora*	3	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	3 = Total Cover		
50% of total cover: 1.5		20% of total cover: 0.6	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Vitis rotundifolia*	15	Yes	FAC
2. *Dioscorea bulbosa*	10	Yes	UPL
3.			
4.			
5.			
	25 = Total Cover		
50% of total cover: 12.5		20% of total cover: 5	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **6** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **75%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**11**	x 2 =	**22**
FAC species	**43**	x 3 =	**129**
FACU species	**0**	x 4 =	**0**
UPL species	**13**	x 5 =	**65**
Column Totals:	**67** (A)		**216** (B)

Prevalence Index = B/A = **3.22**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
39

Date:
07/13/2023

Description:
Wetland determination Data Point 21 looking southwest.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
40

Date:
07/13/2023

Description:
Wetland determination Data Point 21 looking north.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation | County: Rankin | Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation | State: Mississippi | Sample Point: DP22

Investigator(s): Savannah R. Morales and Bettie Shoemaker | Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Bottom/ Slough | Local relief (concave, convex, none): Concave | Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 | Lat: 32.38834 | Long: -90.05219 | Datum: NAD 83

Soil Map Unit Name: Water | NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No	
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?** Yes **X** No

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- **X** Surface Water (A1)
- **X** High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- **X** Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- **X** Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes **X**	No	Depth (inches):	**6**	**Wetland Hydrology Present?** Yes **X** No
Water Table Present?	Yes **X**	No	Depth (inches):	**9**	
Saturation Present?	Yes	No **X**	Depth (inches):	**>16**	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	85	10YR 6/1	5	D	M	Silty Clay	
			7.5YR 4/6	10	C	M		
8-16	10YR 6/1	70	10YR 6/6	30	C	M	Sand	Splotchy iron patterns

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes **X** No

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP22**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Taxodium distichum*	70	Yes	OBL
2. *Ilex decidua*	20	No	FACW
3. *Triadica sebifera*	10	No	FAC
4. *Acer saccharinum*	5	No	FAC
5.			
6.			
	105 = Total Cover		
	50% of total cover: 52.5	20% of total cover: 21	
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	10	Yes	FAC
2. *Taxodium distichum*	5	Yes	OBL
3.			
4.			
5.			
6.			
	15 = Total Cover		
	50% of total cover: 7.5	20% of total cover: 3	
Shrub Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
	= Total Cover		
	50% of total cover:	20% of total cover:	
Herb Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	= Total Cover		
	50% of total cover:	20% of total cover:	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **3** (A)

Total Number of Dominant Species Across All Strata: **3** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**75**	x 1 =	**75**
FACW species	**20**	x 2 =	**40**
FAC species	**25**	x 3 =	**75**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**120** (A)		**190** (B)

Prevalence Index = B/A = **1.58**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
41

Date:
07/13/2023

Description:
Wetland determination Data Point 22 looking east-northeast.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
42

Date:
07/13/2023

Description:
Wetland determination Data Point 22 looking south-southwest.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP23

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Bottom Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.38772 Long: -90.05071 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- **X** Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- **X** Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- **X** Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches):	**N/A**
Water Table Present?	Yes ___	No **X**	Depth (inches):	**>16**
Saturation Present?	Yes **X**	No	Depth (inches):	**0**

Wetland Hydrology Present? **Yes X** **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100	None	—	—	—	Clay Loam	
2-16	10YR 6/2	55	10YR 5/6	40	C	M	Clay Loam	
			10YR 5/6	5	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP23**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Taxodium distichum*	80	Yes	OBL
2. *Betula nigra*	15	No	FACW
3. *Celtis laevigata*	10	No	FACW
4.			
5.			
6.			
	105 = Total Cover		
	50% of total cover: 52.5	20% of total cover:	21
Sapling Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
	50% of total cover: 2.5	20% of total cover:	1
Shrub Stratum (Plot size: 30 ft.)			
1. *Triadica sebifera*	5	Yes	FAC
2. *Carya aquatica*	3	Yes	OBL
3.			
4.			
5.			
6.			
	8 = Total Cover		
	50% of total cover: 4	20% of total cover:	1.6
Herb Stratum (Plot size: 30 ft.)			
1. *Saururus cernuus*	80	Yes	OBL
2. *Brunnichia ovata*	5	No	FACW
3. *Persicaria hydropiperoides*	5	No	OBL
4. *Toxicodendron radicans*	2	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	92 = Total Cover		
	50% of total cover: 46	20% of total cover:	18.4
Woody Vine Stratum (Plot size: 30 ft.)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
	50% of total cover:	20% of total cover:	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **5** (A)

Total Number of Dominant Species Across All Strata: **5** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**168**	x 1 =	**168**
FACW species	**30**	x 2 =	**60**
FAC species	**12**	x 3 =	**36**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**210** (A)		**264** (B)

Prevalence Index = B/A = **1.26**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
43

Date:
07/13/2023

Description:
Wetland determination Data Point 23 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
44

Date:
07/13/2023

Description:
Wetland determination Data Point 23 looking west.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP24

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Undulating Plane Local relief (concave, convex, none): Concave Slope (%): 0-5

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.38744 Long: -90.05121 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes **X**	No		
Hydric Soil Present?	Yes **X**	No	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes **X**	No	**within a Wetland?**	**Yes X** **No**

Remarks:

This point was determined to be within a wetland due to the presence of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- **X** Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- **X** Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15) **(LRR U)**
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots(C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- **X** Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- **X** FAC-Neutral Test (D5)
- ___ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes ___	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	**Yes X** **No**
Water Table Present?	Yes ___	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes **X**	No	Depth (inches): **0**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

A positive indication of wetland hydrology was observed (at least one primary indicator).

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 3/2	100	None	—	—	—	Silt Loam	
1-16	10YR 6/2	60	10YR 6/8	35	C	M	Silt Loam	
			10YR 6/8	5	C	PL		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) **(LRR P, T, U)**
- ___ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ___ Muck Presence (A8) **(LRR U)**
- ___ 1 cm Muck (A9) **(LRR P, T)**
- **X** Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) **(MLRA 150A)**
- ___ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR P, S, T, U)**
- ___ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ___ Thin Dark Surface (S9) **(LRR S, T, U)**
- ___ Loamy Mucky Mineral (F1) **(LRR O)**
- ___ Loamy Gleyed Matrix (F2)
- **X** Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) **(LRR U)**
- ___ Depleted Ochric (F11) **(MLRA 151)**
- ___ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ___ Umbric Surface (F13) **(LRR P, T, U)**
- ___ Delta Ochric (F17) **(MLRA 151)**
- ___ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR O)**
- ___ 2 cm Muck (A10) **(LRR S)**
- ___ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ___ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ___ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes X** **No**

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP24**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Acer saccharinum*	60	Yes	FAC
2. *Celtis laevigata*	10	No	FACW
3. *Halesia diptera*	10	No	FAC
4. *Triadica sebifera*	5	No	FAC
5.			
6.			
	85 = Total Cover		
	50% of total cover: 42.5	20% of total cover:	17
Sapling Stratum (Plot size: 30 ft.)			
1. *Halesia diptera*	8	Yes	FAC
2. *Triadica sebifera*	5	Yes	FAC
3.			
4.			
5.			
6.			
	13 = Total Cover		
	50% of total cover: 6.5	20% of total cover:	2.6
Shrub Stratum (Plot size: 30 ft.)			
1. *Acer saccharinum*	3	Yes	FAC
2.			
3.			
4.			
5.			
6.			
	3 = Total Cover		
	50% of total cover: 1.5	20% of total cover:	0.6
Herb Stratum (Plot size: 30 ft.)			
1. *Carex cherokeensis*	3	Yes	FACW
2. *Toxicodendron radicans*	1	Yes	FAC
3. *Brunnichia ovata*	1	Yes	FACW
4. *Boehmeria cylindrica*	1	Yes	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	6 = Total Cover		
	50% of total cover: 3	20% of total cover:	1.2
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Toxicodendron radicans*	8	Yes	FAC
2. *Campsis radicans*	3	Yes	FAC
3.			
4.			
5.			
	11 = Total Cover		
	50% of total cover: 5.5	20% of total cover:	2.2

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **10** (A)

Total Number of Dominant Species Across All Strata: **10** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**15**	x 2 =	**30**
FAC species	**103**	x 3 =	**309**
FACU species	**0**	x 4 =	**0**
UPL species	**0**	x 5 =	**0**
Column Totals:	**118** (A)		**339** (B)

Prevalence Index = B/A = **2.87**

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- **X** 2 - Dominance Test is >50%
- **X** 3 - Prevalence Index is ≤ 3.0[1]
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** **X** **No** ____

Remarks: (if observed, list morphological adaptations below).

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
45

Date:
07/13/2023

Description:
Wetland determination Data Point 24 looking north.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
46

Date:
07/13/2023

Description:
Wetland determination Data Point 24 looking south.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Bob Anthony Parkway Relocation County: Rankin Sampling Date: July 13, 2023

Applicant/Owner: Mississippi Department of Transportation State: Mississippi Sample Point: DP25

Investigator(s): Savannah R. Morales and Bettie Shoemaker Section, Township, Range: S01, T6N, R2E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Linear Slope Slope (%): 10-20

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 32.38657 Long: -90.04952 Datum: NAD 83

Soil Map Unit Name: Cascilla-Arkabutla association, frequently flooded NWI Classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? (Yes / No) Yes (if no, explain in Remarks.)

Are Vegetation **No**, Soil **No**, or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No

Are Vegetation **No**, Soil **No**, or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No **X**	
Hydric Soil Present?	Yes	No **X**	**Is the Sampled Area**
Wetland Hydrology Present?	Yes	No **X**	**within a Wetland?** Yes No **X**

Remarks:

This point was determined not to be within a wetland due to the lack of all three wetland criteria.

HYDROLOGY

Wetland hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15) **(LRR U)**
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots(C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)
- Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes	No **X**	Depth (inches): **N/A**	**Wetland Hydrology Present?**	Yes No **X**
Water Table Present?	Yes	No **X**	Depth (inches): **>16**		
Saturation Present?	Yes	No **X**	Depth (inches): **>16**		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No positive indication of wetland hydrology was observed.

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 5/3	100	None	—	—	—	Silt Loam	
2-16	10YR 5/6	100	None	—	—	—	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soils Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) **(LRR P, T, U)**
- 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- Muck Presence (A8) **(LRR U)**
- 1 cm Muck (A9) **(LRR P, T)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Coast Prairie Redox (A16) **(MLRA 150A)**
- Sandy Mucky Mineral (S1) **(LRR O, S)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR P, S, T, U)**
- Polyvalue Below Surface (S8) **(LRR S, T, U)**
- Thin Dark Surface (S9) **(LRR S, T, U)**
- Loamy Mucky Mineral (F1) **(LRR O)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) **(LRR U)**
- Depleted Ochric (F11) **(MLRA 151)**
- Iron-Manganese Masses (F12) **(LRR O, P, T)**
- Umbric Surface (F13) **(LRR P, T, U)**
- Delta Ochric (F17) **(MLRA 151)**
- Reduced Vertic (F18) **(MLRA 150A, 150B)**
- Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- 1 cm Muck (A9) **(LRR O)**
- 2 cm Muck (A10) **(LRR S)**
- Reduced Vertic (F18) **(outside MLRA 150A,B)**
- Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes No **X**

Remarks:

No positive indication of hydric soils was observed.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

VEGETATION (Five Strata) - Use scientific names of plants.

Sampling Point: **DP25**

	Absolute % cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft.)			
1. *Prunus serotina*	40	Yes	FACU
2. *Pinus taeda*	15	Yes	FAC
3. *Quercus stellata*	10	No	UPL
4. *Quercus nigra*	10	No	FAC
5. *Ostrya virginiana*	5	No	FACU
6. *Celtis laevigata*	5	No	FACW
	85 = Total Cover		
50% of total cover: 42.5		20% of total cover: 17	
Sapling Stratum (Plot size: 30 ft.)			
1. *Quercus stellata*	5	Yes	UPL
2. *Quercus nigra*	3	Yes	FAC
3. *Juniperus virginiana*	2	Yes	FACU
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5		20% of total cover: 2	
Shrub Stratum (Plot size: 30 ft.)			
1. *Juniperus virginiana*	2	Yes	FACU
2.			
3.			
4.			
5.			
6.			
	2 = Total Cover		
50% of total cover: 1		20% of total cover: 0.4	
Herb Stratum (Plot size: 30 ft.)			
1. *Chasmanthium sessiliflorum*	15	Yes	FAC
2. *Lackeya multiflora*	1	No	FAC
3. *Campsis radicans*	1	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	17 = Total Cover		
50% of total cover: 8.5		20% of total cover: 3.4	
Woody Vine Stratum (Plot size: 30 ft.)			
1. *Smilax rotundifolia*	1	Yes	FAC
2.			
3.			
4.			
5.			
	1 = Total Cover		
50% of total cover: 0.5		20% of total cover: 0.2	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **8** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **50%** (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**5**	x 2 =	**10**
FAC species	**46**	x 3 =	**138**
FACU species	**49**	x 4 =	**196**
UPL species	**15**	x 5 =	**75**
Column Totals:	**115** (A)		**419** (B)

Prevalence Index = B/A = **3.64**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Five Vegetation Strata:

Tree - Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling - Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub - Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb - All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 2 ft (1 m) in height.

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ____ **No** **X**

Remarks: (if observed, list morphological adaptations below).

No positive indication of hydrophytic vegetation was observed (≥50% of dominant species indexed as FAC− or drier).

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
47

Date:
07/13/2023

Description:
Wetland determination Data Point 25 looking west.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
48

Date:
07/13/2023

Description:
Wetland determination Data Point 25 looking east.

Other Waters of the U.S. Field Data Sheets and Photos

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Madison County, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.40232721 **Long:** -90.07507386	**Sample Location ID:** OW1
Applicant/Owner: MS Department of Transportation	**Date:** 07/12/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** 0.48 Acres	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☑ Intermittent ☐ Perennial

Tributary flows directly into a TNW?

Explain: No, tributary flows into oxbows and lakes before reaching TNW.

Distance to nearest TNW:

River Miles: 16,000 Aerial Miles: 3,800

Describe flow route to TNW: Tributary flows southwest into a series of oxbow depressions and lakes before draining into the Pearl River .

Tributary is (natural / artificial / manipulated): Natural/manipulated

Explain: Land draining into tributary is manipulated by Ross Barnette Reservoir.

WEATHER CONDITIONS

Current:

☐ rain (steady rain)

☑ showers (intermittent)

☐ cloud cover 100 (%)

☐ clear/ sunny

air temperature: 82 (ºF)

Has there been heavy rain in the last 7 days? Yes

Average Rainfall: 0.35 (in.)

Comment: Rainfall data is in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson (32.383628 -90.136259) and retrieved from NOAA Climate Data Online.

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☑ Other (Explain):

Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

☐ Field/Pasture ☐ Industrial

☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 164 (ft.) **Estimated channel width**: 15 (ft.) **Estimated channel depth**: 1 (ft.) **Channelized:** No **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☐ 4:1 ☐ greater ☑ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Very gently slopes feeding into the riparian buffer. **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable gentle slopes. **Riffle / Run / Pool complex:** No **Explain:**
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Discrete, defined bed and bank, but overland flow is common. **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 20 (ft.) **Dominant species present** (top bank / buffer): *Nyssa aquatica* **Aquatic vegetation present:** No **Comment:** No vegetation within channel. Riparian buffer dominated by Nyssa aquatica.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
49

Date:
07/12/2023

Description:
Other Water Assessment Point OW1 looking east.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Madison County, MS

Photo No:
50

Date:
07/12/2023

Description:
Other Water Assessment Point OW1 looking southwest.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Rankin County, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.39448592 **Long:** -90.06219935	**Sample Location ID:** OW2
Applicant/Owner: MS Department of Transportation	**Date:** 07/12/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** 0.69 Acres	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☐ Intermittent ☑ Perennial

Tributary flows directly into a TNW?
Explain: No

Distance to nearest TNW:
River Miles: 2,200 Aerial Miles: 1,300

Describe flow route to TNW: Flow starts in ditches northeast of site, past a rock damn, south connecting to another tributary, then northwest into the Pearl River.

Tributary is (natural / artificial / manipulated): Manipulated
Explain: Flow is manipulated by Ross Barnett Reservoir, rock dam where ditches drain into stream

WEATHER CONDITIONS

Current:
☐ rain (steady rain)
☑ showers (intermittent)
☑ cloud cover 50 (%)
☐ clear/ sunny
air temperature: 87 (ºF)

Has there been heavy rain in the last 7 days? Yes

Average Rainfall: 0.35 (in.)

Comment: Rainfal data is presented in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson, MS (32.383628 -90.136259) and retreived from NOAA Climate Data Online

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☑ Other (Explain):
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Residential

Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
51

Date:
07/12/2023

Description:
Other Water Assessment Point OW2 looking south-southeast.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
52

Date:
07/12/2023

Description:
Other Water Assessment Point OW2 looking north.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 380 (ft.) **Estimated channel width**: 8 (ft.) **Estimated channel depth**: 1 (ft.) **Channelized:** No **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☐ 4:1 ☐ greater ☑ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Gently banks **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable, overland sheet-flow common **Riffle / Run / Pool complex:** No **Explain:** Riffles present at rock dam.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Discrete during low water, overland withing wetland during high flow **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 20 (ft.) **Dominant species present** (top bank / buffer): *Taxodium distichum* **Aquatic vegetation present:** No **Comment:** Aquatic vegetation not present in stream channel, but present in adjacent wetland buffer.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Rankin County, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.40232721 **Long:** -90.07507386	**Sample Location ID:** OW3
Applicant/Owner: MS Department of Transportation	**Date:** 07/12/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** ~0.97 Acres	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☐ Intermittent ☑ Perennial

Tributary flows directly into a TNW?
Explain: No

Distance to nearest TNW:
River Miles: 2,700 Aerial Miles: 1,500

Describe flow route to TNW: Tributary is an oxbow flowing south into another tributary then northeast into the Pearl River.

Tributary is (natural / artificial / manipulated): Natural/Manipulated
Explain: Tributary starts as a drainage ditch along the levee then connects into a natural oxbow.

WEATHER CONDITIONS

Current:
☐ rain (steady rain)
☑ showers (intermittent)
☑ cloud cover 35 (%)
☐ clear/ sunny
air temperature: 92 (ºF)

Has there been heavy rain in the last 7 days? Yes

Average Rainfall: 0.35 (in.)

Comment: Rainfall data is in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson, MS (32.383628 -90.136259) and retrieved from NOAA Climate Data Online.

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☑ Other (Explain):
☐ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Residential

Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 438 (ft.) **Estimated channel width**: 10 (ft.) **Estimated channel depth**: 3.5 (ft.) **Channelized:** No **Dam present:** Yes **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☑ 4:1 ☐ greater ☐ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** No defined bed and banks. Tributary is an oxbow with a gradient riparian buffer. **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable **Riffle / Run / Pool complex:** No **Explain:**
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Discrete **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 30-50 total width (ft.) **Dominant species present** (top bank / buffer): *Taxodium distichum* **Aquatic vegetation present:** Yes **Comment:** This oxbow is a cypress swamp draining the ditches from the north.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
53

Date:
07/13/2023

Description:
Other Water Assessment Point OW3 looking southeast.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
54

Date:
07/13/2023

Description:
Other Water Assessment Point OW3 looking north.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.40232721 **Long:** -90.07507386	**Sample Location ID:** OW4
Applicant/Owner: MS Department of Transportation	**Date:** 07/12/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** ~0.16 Acre	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION	**Tributary subsystem:** ☑ Ephemeral ☐ Intermittent ☐ Perennial **Tributary flows directly into a TNW?** **Explain:** No. **Distance to nearest TNW:** River Miles: 2,800 Aerial Miles: 1,500 This ephemeral stream drains into OW3 during precipitation events. **Describe flow route to TNW:** This flow regime does not meet the criteria for juristitional OW. **Tributary is** (natural / artificial / manipulated): Natural **Explain:** Flow is manipulated by Ross Barnett Reservoir
WEATHER CONDITIONS	**Current:** ☐ rain (steady rain) ☐ showers (intermittent) ☑ cloud cover 70 (%) ☐ clear/ sunny air temperature: 88 (ºF) **Has there been heavy rain in the last 7 days?** Yes **Average Rainfall:** 0.35 (in.) **Comment:** Rainfal data is presented in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson, MS (32.383628 -90.136259) and retreived from NOAA Climate Data Online
WATERSHED FEATURES	**Predominant surrounding landuse:** ☑ Forest ☐ Commercial ☐ Other (Explain): ☐ Field/Pasture ☐ Industrial ☐ Agricultural ☐ Residential Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 375 (ft.) **Estimated channel width**: 20 (ft.) **Estimated channel depth**: 1 (ft.) **Channelized:** No **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☑ 3:1 ☐ 4:1 ☐ greater ☐ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** High slopes **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Banks are high, but somewhat vegetated. **Riffle / Run / Pool complex:** No **Explain:** No water present.
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Discrete **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 0 (ft.) **Dominant species present** (top bank / buffer): *Paw paw trees (Asimina triloba) dominate the top of banks.* **Aquatic vegetation present:** No **Comment:** No vegetation within stream channel.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
55

Date:
07/13/2023

Description:
Other Water Assessment Point OW4 looking north-northwest.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
56

Date:
07/13/2023

Description:
Other Water Assessment Point OW4 looking east.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.40232721 **Long:** -90.07507386	**Sample Location ID:** OW5
Applicant/Owner: MS Department of Transportation	**Date:** 07/13/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** ~0.83 Acre	**Tributary Name (if known):** Pelahatchie Creek **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☐ Intermittent ☑ Perennial

Tributary flows directly into a TNW?
Explain:

Distance to nearest TNW:
River Miles: 7,800 Aerial Miles: 4,800

Describe flow route to TNW: Tributary flows from upstream ditches, through the project area northwest to the Pearl River.

Tributary is (natural / artificial / manipulated): Manipulated
Explain: Flow is manipulated by Ross Barnett Reservoir

WEATHER CONDITIONS

Current:
☐ rain (steady rain)
☐ showers (intermittent)
☑ cloud cover 75 (%)
☐ clear/ sunny
air temperature: 90 (ºF)

Has there been heavy rain in the last 7 days? Yes

Average Rainfall: 0.35 (in.)

Comment: Rainfal data is presented in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson, MS (32.383628 -90.136259) and retreived from NOAA Climate Data Online

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☐ Other (Explain):
Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

☐ Field/Pasture ☐ Industrial

☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 417 (ft.) **Estimated channel width**: 2.5 (ft.) **Estimated channel depth**: 0.5 (ft.) **Channelized:** No **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☑ 4:1 ☐ greater ☐ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Bed and banks are defined outside of the forest within the ditches, but definition becomes less distinct within the forest. **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable low slopes **Riffle / Run / Pool complex:** No **Explain:**
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Discrete **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 20 each side (ft.) **Dominant species present** (top bank / buffer): *Taxodium distichum and Saururus cernuus* **Aquatic vegetation present:** Yes **Comment:** Taxodium distichum present in the adjacent riparian buffer.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
57

Date:
07/13/2023

Description:
Other Water Assessment Point OW5 looking northeast.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
58

Date:
07/13/2023

Description:
Other Water Assessment Point OW5 looking southwest.

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

Project: Bob Anthony Parkway Relocation	**City/County/State:** Jackson, Rankin County, Mississippi	
Investigator(s): Savannah R. Morales, Bettie Shoemaker	**Lat:** 32.40232721 **Long:** -90.07507386	**Sample Location ID:** OW6
Applicant/Owner: MS Department of Transportation	**Date:** 07/13/2023	
Reason for Survey: Wetland Delineation		
River Basin/HUC Number: 031800020601 **Size of Watershed:** 20,913.58 Acres **Size of Drainage Area:** ~1.0	**Tributary Name (if known):** Unknown stream **Nearest TNW:** Pearl River	

TRIBUTARY CHARACTERIZATION

Tributary subsystem:

☐ Ephemeral ☐ Intermittent ☑ Perennial

Tributary flows directly into a TNW?
Explain: No

Distance to nearest TNW:
River Miles: 6,600 Aerial Miles: 4,739

Describe flow route to TNW: Tributary flows northwest into OW5, which then flows northeast and drains into the Pearl River.

Tributary is (natural / artificial / manipulated): Artificial
Explain: This tributary is an artificial drainage ditch.

WEATHER CONDITIONS

Current:
☐ rain (steady rain)
☐ showers (intermittent)
☑ cloud cover 50 (%)
☐ clear/ sunny
air temperature: 88 (ºF)

Has there been heavy rain in the last 7 days? Yes

Average Rainfall: 0.35 (in.)

Comment: Rainfal data is presented in inches/day for 7/4/2023 - 7/11/2023 from station US1MSHD0018 in Jackson, MS (32.383628 -90.136259) and retreived from NOAA Climate Data Online

WATERSHED FEATURES

Predominant surrounding landuse:

☑ Forest ☐ Commercial ☑ Other (Explain): Immediate vicinity is forest and mowed edge of Ross Barnett Reservoir levee toe.

☐ Field/Pasture ☐ Industrial

☐ Agricultural ☐ Residential

FIELD DATA SHEET

OTHER WATERS OF THE U.S.

TRIBUTARY FEATURES	**Estimated reach length**: 714 (ft.) **Estimated channel width**: 2-3 (ft.) **Estimated channel depth**: 0.5 (ft.) **Channelized:** No **Dam present:** No **Estimated slope of banks**: vertical ☐ 2:1 ☐ 3:1 ☑ 4:1 ☐ greater ☐ **Substrate:** sand ☐ cobble ☐ silt ☑ gravel ☐
TRIBUTARY CONDITION	**Tributary has** (defined bed and banks / OHWM): **Explain:** Bed and banks are definded. **Bank stability** (highly eroded, sloughing banks, etc): **Explain:** Stable **Riffle / Run / Pool complex:** No **Explain:**
FLOW CONDITIONS	**Tributary geometry** (relatively straight, meandering, other): **Explain:** Meandering **Current flow is** (discrete, confined, overland sheet flow, etc): **Explain:** Flow is discrete within the defined bed and banks, but overland flow during times of high water is confined to the ditch slopes. **Average flow events per year:**_____
VEGETATION	**Approximate width of riparian buffer:** 20 (ft.) **Dominant species present** (top bank / buffer): *Taxodium distichum and Saururus cernuus* **Aquatic vegetation present:** **Comment:** Taxodium distichum is present in the riparian buffer. Minimal (2% coverage) Saururus cernuus present within the stream channel.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
59

Date:
07/13/2023

Description:
Other Water Assessment Point OW6 looking west-northwest.

Site: Bob Anthony Parkway Relocation

Location:
Jackson, Rankin County, MS

Photo No:
60

Date:
07/13/2023

Description:
Other Water Assessment Point OW6 looking southeast.

Appendix C — Background Information

Soils Map, National Hydrography Dataset Map, National Wetlands Inventory Map, National Land Cover Database Map

0 1,000 2,000 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

WEST SEGMENT SOILS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE C-1

0 750 1,500 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

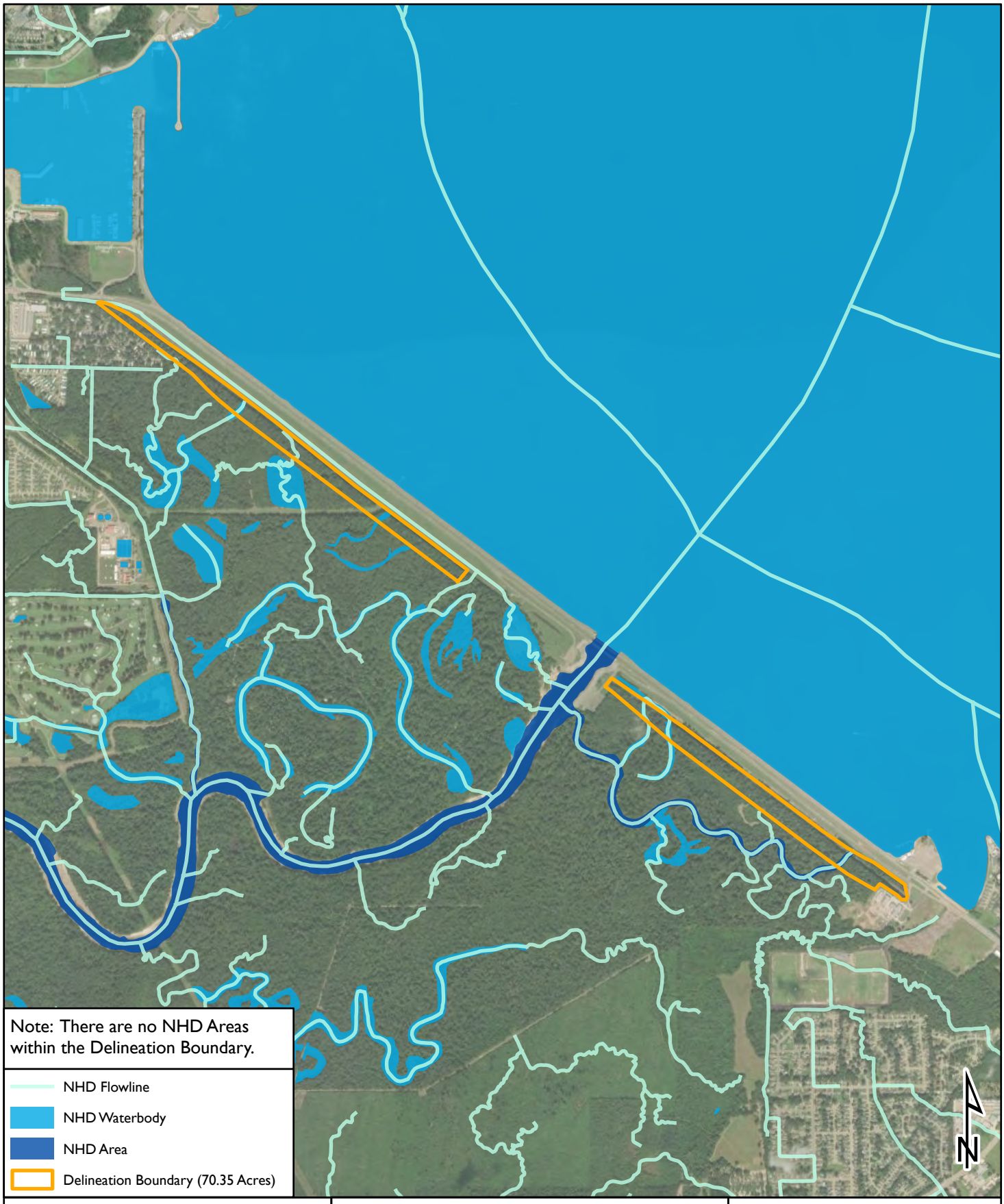
Madison and Rankin Counties, Mississippi

EAST SEGMENT SOILS MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE C-2



0 2,000 4,000 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

USGS NATIONAL HYDROGRAPHY DATASET MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE C-3

0 2,000 4,000 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

USFWS NATIONAL WETLANDS INVENTORY MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE C-4

0 2,000 4,000 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

USGS NATIONAL ELEVATION DATASET MAP

CYPRESS Environment & Infrastructure

Date: 7/25/2023

FIGURE C-5

0 2,000 4,000 Feet

Coordinate System: NAD 1983 State Plane Mississippi East FIPS 2301 Feet

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

Madison and Rankin Counties, Mississippi

USGS NATIONAL LAND COVER DATABASE (2019)

CYPRESS Environment & Infrastructure

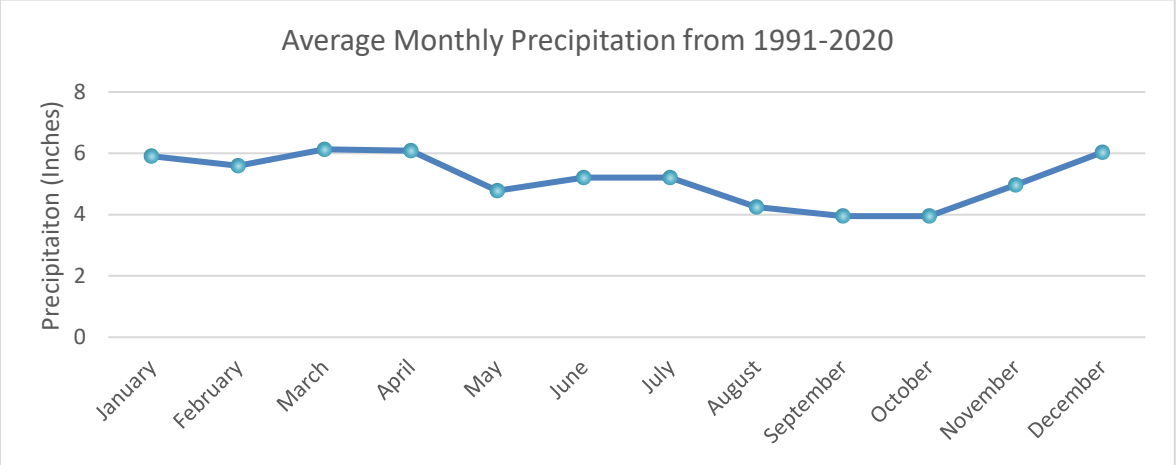
Date: 7/25/2023

FIGURE C-6

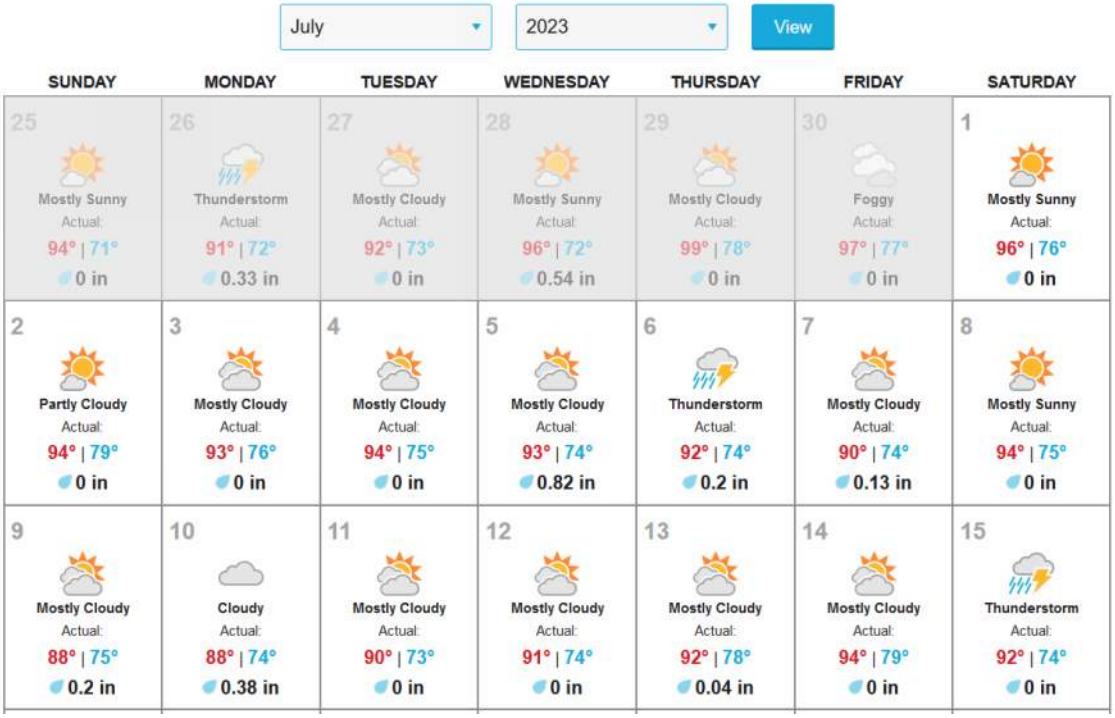
Appendix D — Rainfall Data

Average rainfall data

Ridgeland, MS Average Rainfall by Month from 1991-2020. Station ID: US1MSMD0001



Source: https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-monthly&timeframe=30&location=MS&station=US1MSMD0001



Local weather from Weather Underground

Local weather reported from the Jackson-Medgar Wiley Evers International Airport Station for July 1 through July 15, 2023.

Source: *http://www.wunderground.com/*

Wets Tables for Jackson International Airport

Source: http://agacis.rcc-acis.org/?fips=28121