

Desoto &Tate Counties, MS

07 NOVEMBER 2024 MVK-2024-566

USACE Proposed Arkabutla Dam Repair Project Desoto &Tate Counties, MS

Preliminary
Jurisdictional Determination

Jeremy Stokes



Potentially Jurisdictional
Other Waters
(Tributaries/RPW)
(18,572')

Potentially Jurisdictional
Open Water (Other
Waters) (159.1 Acres)

Potentially Jurisdictional Forested Wetlands (42.5 Acres)

Boundary



Scale1:24,000

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam	City/County: Desoto Co	ounty Sampling Date: 10/9/2024
Applicant/Owner: USACE		State: MS Sampling Point: 1
Investigator(s): Stokes/Ulmer	Section, Township, Range:	02-T4S-R9W
Landform (hillside, terrace, etc.): Depressio	on Local relief (concave, convex,	none): Concave Slope (%): 0-5
Subregion (LRR or MLRA): LRR O, MLRA 1		90.126973 Datum: NAD83
Soil Map Unit Name: Borrow Pit		NWI classification: PFO
Are climatic / hydrologic conditions on the site	e typical for this time of year? Yes X	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydro		Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydro		plain any answers in Remarks.)
<u> </u>	site map showing sampling point locati	
Hydrophytic Vegetation Present?	Yes X No Is the Sampled Area	
1	Yes X No within a Wetland?	Yes X No
Wetland Hydrology Present?	Yes X No	
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required		Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	X Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1) Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	X Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7		FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)	,	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? Yes	No Depth (inches): Wetland	Hydrology Present? Yes X No
(includes capillary fringe)		
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, previous inspections), if a	vailable:
Remarks:		
Remarks.		

VEGETATION	(Five Strata)	 Use scientific 	names of plants.

	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:
1. Quercus nigra	15	Yes	FAC	Number of Dominant Species
2. Ulmus crassifolia	5	No	FAC	That Are OBL, FACW, or FAC:4 (A)
3. Liquidambar styraciflua	10	No	FAC	Total Number of Dominant
4. Ostrya virginiana	2	No	FACU	Species Across All Strata: 5 (B)
5. Acer rubrum	5	No	FAC	Percent of Dominant Species
6. Ulmus americana	15	Yes	FAC	That Are OBL, FACW, or FAC: 80.0% (A/B)
	54 =	=Total Cover		Prevalence Index worksheet:
50% of total cover:	27 20%	of total cover:	11	Total % Cover of: Multiply by:
Sapling Stratum (Plot size: 30)				OBL species 0 x 1 = 0
1. Acer rubrum	10	Yes	FAC	FACW species 6 x 2 = 12
2. Ostrya virginiana	5	Yes	FACU	FAC species 115 x 3 = 345
3. Fraxinus pennsylvanica	2	No	FACW	FACU species 7 x 4 = 28
4.				UPL species 0 x 5 = 0
5.				Column Totals: 128 (A) 385 (B)
6.				Prevalence Index = B/A = 3.01
·	17 :	=Total Cover		Hydrophytic Vegetation Indicators:
50% of total cover:		of total cover:	4	1 - Rapid Test for Hydrophytic Vegetation
	2070	or total cover.		X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:)				l
1.				3 - Prevalence Index is ≤3.0¹
2.				Problematic Hydrophytic Vegetation ¹ (Explain)
3.				
4.				
5				¹ Indicators of hydric soil and wetland hydrology must be
6.				present, unless disturbed or problematic.
	:	=Total Cover		Definitions of Five Vegetation Strata:
50% of total cover:	20%	of total cover:		Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size: 30)				
ouatam (1 lot 0120				approximately 20 ft (6 m) or more in height and 3 in.
Microstegium vimineum	50	Yes	FAC	(7.6 cm) or larger in diameter at breast height (DBH).
·	50	Yes No	FAC FACW	
Microstegium vimineum				(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
 Microstegium vimineum Polygonum pensylvanicum 	2	No	FACW	(7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines,
 Microstegium vimineum Polygonum pensylvanicum Smilax bona-nox 	2	No	FACW	(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
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Sampling Point: 1

Depth	Matrix			x Featur			onfirm the absence	·
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-4	10YR 5/3	100						
			10)/D 5/0					
4-12	10YR 6/2	75	10YR 5/6	25	<u>C</u>	PL/M	Loamy/Clayey	Prominent redox concentrations
		 .	_					
¹ Type: C=Co	ncentration, D=Depl	etion, RM	=Reduced Matrix, N	/IS=Masl	ked San	d Grains.	² Location:	PL=Pore Lining, M=Matrix.
Hydric Soil Ir	ndicators: (Applica	ble to all	LRRs, unless other	rwise n	oted.)		Indicators	for Problematic Hydric Soils ³ :
Histosol (Thin Dark Su			-		luck (A9) (LRR O)
	pedon (A2)		Barrier Island			512)		luck (A10) (LRR S)
Black His	` '		(MLRA 15		•			Prairie Redox (A16) (MLRA 149A)
	Sulfide (A4)		Loamy Muck	•	· , •	RR O)		ed Vertic (F18)
	Layers (A5)	T 11\	Loamy Gleye X Depleted Ma		` '		•	ide MLRA 150A, 150B)
	Bodies (A6) (LRR P, cky Mineral (A7) (LR	-		` ,				ont Floodplain Soils (F19) (LRR P, T) lous Bright Floodplain Soils (F20)
	esence (A8) (LRR U)		Depleted Da		` '			A 153B)
	ck (A9) (LRR P, T)	'	X Redox Depre		` ,			rent Material (F21)
	Below Dark Surface	(A11)	Marl (F10) (L		()			nallow Dark Surface (F22)
	rk Surface (A12)	` ,	Depleted Oc	-	1) (ML R	A 151)		ide MLRA 138, 152A in FL, 154)
Coast Pra	airie Redox (A16) (M	LRA 150	A) Iron-Mangan	ese Mas	sses (F1	2) (LRR C	D, P, T)Barrier	Islands Low Chroma Matrix (TS7)
Sandy Mi	ucky Mineral (S1) (L	RR O, S)	Umbric Surfa	ace (F13) (LRR F	P, T, U)	(MLR	A 153B, 153D)
Oandy ivit								
	eyed Matrix (S4)		Delta Ochric	(F17) (N	ILRA 15	51)	Other (Explain in Remarks)
			Delta Ochric Reduced Ve			-		Explain in Remarks)
Sandy Gl Sandy Re Stripped I	edox (S5) Matrix (S6)		Reduced Ve Piedmont Flo	rtic (F18 oodplain) (MLRA Soils (F	150A, 15 19) (MLR	50B) A 149A)	Explain in Remarks)
Sandy Gl Sandy Re Stripped I Dark Surf	edox (S5) Matrix (S6) face (S7) (LRR P, S	-	Reduced Ve Piedmont Fle Anomalous I	rtic (F18 oodplain Bright Fl) (MLR<i>A</i> Soils (F oodplain	150A, 15 19) (MLR Soils (F2	50B) A 149A) O)	
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue	edox (S5) Matrix (S6) face (S7) (LRR P, S e Below Surface (S8)	-	Reduced Ve Piedmont Fle Anomalous I	rtic (F18 codplain Bright Flo 9A, 153 0) (MLRA Soils (F oodplain C, 153D)	150A, 15 19) (MLR Soils (F2	50B) A 149A) 0) ³ Indicat	ors of hydrophytic vegetation and
Sandy Gl Sandy Re Stripped I Dark Surf	edox (S5) Matrix (S6) face (S7) (LRR P, S e Below Surface (S8)	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetla	ors of hydrophytic vegetation and and hydrology must be present,
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Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.
Sandy Gl Sandy Re Stripped I Dark Surf Polyvalue (LRR S Restrictive L Type: Depth (inc	edox (S5) Matrix (S6) face (S7) (LRR P, See Below Surface (S8) 6, T, U) ayer (if observed):	-	Reduced Ve Piedmont Flo Anomalous I (MLRA 14 Very Shallov	rtic (F18 codplain Bright Flo 9A, 153 0 v Dark S) (MLRA Soils (F oodplain C, 153D) urface (F	150A, 15 19) (MLR Soils (F2)	50B) A 149A) 0) 3Indicat wetta	ors of hydrophytic vegetation and and hydrology must be present, as disturbed or problematic.

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam	City/Co	ounty: Desoto County	Sampling Date: 10/9/2024
Applicant/Owner: USACE	_	State: MS	Sampling Point: 2
Investigator(s): Stokes/Ulmer	Section, To	wnship, Range: 02-T4S-R9W	
Landform (hillside, terrace, etc.): Inactive F		oncave, convex, none): Flat	Slope (%): 0-5
Subregion (LRR or MLRA): LRR O, MLRA 1		Long: -90.126580	Datum: NAD83
Soil Map Unit Name: Borrow Pit	Eut. 04.702070	NWI classifica	
Are climatic / hydrologic conditions on the site	a typical for this time of year?		
, ,	,,		explain in Remarks.)
Are Vegetation, Soil, or Hydro		Are "Normal Circumstances" present	
Are Vegetation, Soil, or Hydro		(If needed, explain any answers in R	•
SUMMARY OF FINDINGS – Attach	site map showing sampling	point locations, transects, ir	nportant features, etc.
Hydrophytic Vegetation Present?	Yes No X Is the	Sampled Area	
Hydric Soil Present?		a Wetland? Yes	No X
Wetland Hydrology Present?	Yes No X		
Remarks:	•		
LIVEROLOGY			
HYDROLOGY			
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	(minimum of two required)
Primary Indicators (minimum of one is requi		Surface Soil Crac	
Surface Water (A1) High Water Table (A2)	Aquatic Fauna (B13) Marl Deposits (B15) (LRR U)	Drainage Pattern	ted Concave Surface (B8)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines	
Water Marks (B1)	Oxidized Rhizospheres on Livin		
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows	
Drift Deposits (B3)	Recent Iron Reduction in Tilled		e on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Pos	• • • •
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard	
Inundation Visible on Aerial Imagery (B)	7)	FAC-Neutral Tes	
Water-Stained Leaves (B9)		Sphagnum Moss	(D8) (LRR T, U)
Field Observations:			
Surface Water Present? Yes	No Depth (inches):		
Water Table Present? Yes	No Depth (inches):		
Saturation Present? Yes	No Depth (inches):	Wetland Hydrology Present?	Yes No _X_
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mo	onitoring well, aerial photos, previous	nspections), if available:	
Remarks:			
Nomana.			

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

' E'	GETATION (Five Strata) – Use scienti	ille Hallies	or plants.		Sampling Poir	nt: 2	
Tre	ee Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1.	Pinus taeda	15	Yes	FAC	Number of Dominant Species		
2.	Ulmus alata	10	Yes	FACU	That Are OBL, FACW, or FAC:	3	(A)
3.	Liquidambar styraciflua	10	Yes	FAC	Total Number of Dominant		_
4.	Quercus pagoda	5	No	FAC	Species Across All Strata:	7	(B)
5.	Acer rubrum	5	No	FAC	Percent of Dominant Species		_ '
6.	Asimina triloba	15	Yes	FACU	That Are OBL, FACW, or FAC:	42.9%	(A/B)
		60 =	=Total Cover		Prevalence Index worksheet:		_ ` ·
	50% of total cover: 3		of total cover:	12	Total % Cover of:	Multiply by:	
Sar	pling Stratum (Plot size: 30)		•		OBL species 0 x 1		
1.	Asimina triloba	50	Yes	FACU	FACW species 0 x 2		
2.	Ulmus alata	25	Yes	FACU	FAC species 47 x 3		
3.	Ostrya virginiana	10	No	FACU	FACU species 114 x 4		—
3. 4.	Ostrya virginiana	10	110	TAGE	UPL species 0 x 5		_
4. 5.							— (B)
					Column Totals: 161 (A)	597	(B)
6.			 .		Prevalence Index = B/A =	3.71	
	FOOY - fitatal agreem		=Total Cover	47	Hydrophytic Vegetation Indicate		
		43 20%	of total cover:	17	1 - Rapid Test for Hydrophytic	Vegetation	
	rub Stratum (Plot size:)				2 - Dominance Test is >50%		
1.					3 - Prevalence Index is ≤3.0 ¹		
2.					Problematic Hydrophytic Vege	etation ¹ (Expla	ain)
3.							
4.							
5.					¹ Indicators of hydric soil and wetla	nd hydrology	must be
6.					present, unless disturbed or proble	, ,,	muot 50
			=Total Cover		Definitions of Five Vegetation S		
	50% of total cover:		of total cover:		Tree – Woody plants, excluding w		
He	rb Stratum (Plot size: 30)		•		approximately 20 ft (6 m) or more		l 3 in.
1.	Vitis rotundifolia	10	Yes	FAC	(7.6 cm) or larger in diameter at bi		
1. 2.	Lonicera japonica	2	No	FACU	Continue Maria de miama acceledia	··· - decedim	
					Sapling – Woody plants, excludin approximately 20 ft (6 m) or more		
3.	Asimina triloba	2	No No	FACU	than 3 in. (7.6 cm) DBH.	III Heigili and	I U SS
4.	Smilax rotundifolia	2	<u>No</u>	FAC			
5.					Shrub - Woody Plants, excluding		'
6.					approximately 3 to 20 ft (1 to 6 m)	ın heignt.	
7.			· .		Herb – All herbaceous (non-wood)	y) plants, incl	luding
8.					herbaceous vines, regardless of si	ize, <u>and</u> wood	dy
9.					plants, except woody vines, less th	nan approxim	ately 3
10.					ft (1 m) in height.		
11.					Woody Vine - All woody vines, re	gardless of h	neight.
		16 =	=Total Cover				
	50% of total cover:		of total cover:	4			
Mc	body Vine Stratum (Plot size:)	5 2070	UI total cover.				
	ody vine Stratum (Piot Size)						
1.							
2.							
3.							
4.							
5.					Liverantia		
		_	=Total Cover		Hydrophytic Vegetation		
	50% of total cover:		of total cover:		1 _ *	No X	

	ription: (Describe to Matrix	o the dept		ıment tl x Featur		ator or co	onfirm the absence	of indicato	ors.)		
Depth (inches)	Color (moist)	%	Color (moist)	% realui	Type ¹	Loc ²	Texture		Rema	arke	
(IIICHES)	Color (moist)		Color (moist)		Туре	LUC	Texture		Keine	ains	
0-10	10YR 4/3	100					,				
	ncentration, D=Deple					d Grains.		PL=Pore Li	_		3
-	ndicators: (Applical	ole to all L			-			for Proble	-	Iric Soils	' :
Histosol			Thin Dark Su			-		Muck (A9) (L	-		
	ipedon (A2)		Barrier Island			12)		Muck (A10)			
Black His	` '		(MLRA 15		-			Prairie Red		MLRA 149	9A)
	n Sulfide (A4)		Loamy Muck	•	` ' '	RR O)		ced Vertic (F	,		
Stratified	Layers (A5)		Loamy Gleye		k (F2)		•	side MLRA	,	,	
Organic I	Bodies (A6) (LRR P,	T, U)	Depleted Ma	trix (F3)				ont Floodpla	,	, .	
5 cm Mu	cky Mineral (A7) (LR I	R P, T, U)	Redox Dark	Surface	(F6)		Anom	alous Bright	Floodplair	n Soils (F	20)
Muck Pre	esence (A8) (LRR U)		Depleted Da	rk Surfa	ce (F7)		(ML	RA 153B)			
1 cm Mu	ck (A9) (LRR P, T)		Redox Depre	essions	(F8)			arent Mater	, ,		
Depleted	Below Dark Surface	(A11)	Marl (F10) (L	.RR U)			Very S	Shallow Dark	Surface ((F22)	
	rk Surface (A12)		Depleted Oc	hric (F1	1) (ML R	A 151)	(out	side MLRA	138, 152 <i>A</i>	in FL, 1	54)
	airie Redox (A16) (M		Iron-Mangan	ese Mas	sses (F1	2) (LRR (D, P, T)Barrie	r Islands Lo	w Chroma	Matrix (T	S7)
Sandy M	ucky Mineral (S1) (Li	RR O, S)	Umbric Surfa	ace (F13) (LRR I	P, T, U)	(ML	RA 153B, 1	53D)		
Sandy G	eyed Matrix (S4)		Delta Ochric	(F17) (N	ILRA 15	51)	Other	(Explain in I	Remarks)		
Sandy Re	edox (S5)		Reduced Ve	rtic (F18) (MLRA	150A, 15	50B)				
Stripped	Matrix (S6)		Piedmont Flo	oodplain	Soils (F	19) (MLR	A 149A)				
Dark Sur	face (S7) (LRR P, S ,	T, U)	Anomalous E	Bright Fl	oodplain	Soils (F2					
Polyvalue	e Below Surface (S8)		(MLRA 14	9A, 153	C, 153D)	³ Indica	ators of hydr	ophytic ve	getation a	and
(LRR S	S, T, U)		Very Shallow	/ Dark S	urface (I	- 22)	wet	land hydrolc	gy must b	e present	,
			(MLRA 13	8, 152A	in FL, 1	54)	unle	ess disturbe	d or proble	ematic.	
Restrictive L	ayer (if observed):										
Type:											
Depth (in	ches):						Hydric Soil Pres	ent?	Yes	No	X
Remarks:											

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam	City/County: Desot	o County Sampling Date: 10/9/2024
Applicant/Owner: USACE		State: MS Sampling Point: 3
Investigator(s): Stokes/Ulmer	Section, Township, Ran	
Landform (hillside, terrace, etc.): Inactive F		
Subregion (LRR or MLRA): LRR O, MLRA		g: -90.1282832 Datum: NAD83
Soil Map Unit Name: Borrow Pit	10111 Lat. 0 525555	NWI classification: PFO
Are climatic / hydrologic conditions on the sit	te typical for this time of year? Yes X	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydro	ology significantly disturbed? Are "Norm	al Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydro		, explain any answers in Remarks.)
		eations, transects, important features, etc.
Hydrophytic Vegetation Present?	Yes X No Is the Sampled Are	ea
Hydric Soil Present?	Yes No X within a Wetland?	
Wetland Hydrology Present?	Yes No X	
Remarks:	•	
HYDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is requ	uired; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Water Marks (B1)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Drift Deposits (B3)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B	37)	FAC-Neutral Test (D5)
Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes	No Depth (inches):	
Water Table Present? Yes	No Depth (inches):	
Saturation Present? Yes	No Depth (inches): Wetla	and Hydrology Present? Yes No _X
(includes capillary fringe)		
Describe Recorded Data (stream gauge, m	onitoring well, aerial photos, previous inspections),	if available:
Remarks:		
Remarks.		

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

/EG	SETATION (Five Strata) – Use scient	ific names	or plants.		Sampling Poir	nt: 3	
Tree	Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:		
1	Fraxinus pennsylvanica	2	No	FACW	Number of Dominant Species		
2.	Ulmus alata	10	No	FACU	That Are OBL, FACW, or FAC:	3	(A)
3.	Liquidambar styraciflua	20	Yes	FAC	Total Number of Dominant		_
4.	Quercus pagoda	10	No	FAC	Species Across All Strata:	5	(B)
5.	Quercus nigra	40	Yes	FAC	Percent of Dominant Species		_ '
-	Asimina triloba	2	No	FACU	That Are OBL, FACW, or FAC:	60.0%	(A/B)
-		84 =	=Total Cover		Prevalence Index worksheet:		
	50% of total cover:	42 20%	of total cover:	17	Total % Cover of:	Multiply by:	
Sapl	ling Stratum (Plot size: 30)		•		OBL species 0 x 1		_
	Asimina triloba	30	Yes	FACU	FACW species 2 x 2		_
-	Ulmus alata	5	No No	FACU	FAC species 75 x 3	-	
2. 3.	Olifius diata			17.00	FACU species 52 x 4		
ა. 4.			-		UPL species 0 x 5		
-							— _(B)
5. -					Column Totals: 129 (A)	437	(B)
6. <u>-</u>					Prevalence Index = B/A =	3.39	
			=Total Cover		Hydrophytic Vegetation Indicato		
		18 20%	of total cover:	7	1 - Rapid Test for Hydrophytic	: Vegetation	
<u>Shru</u>	ub Stratum (Plot size:)				X 2 - Dominance Test is >50%		
1					3 - Prevalence Index is ≤3.0 ¹		
2.			<u> </u>		Problematic Hydrophytic Vege	etation ¹ (Expla	ain)
3.					 		
4.					1		
5.					1 Indicators of budric soil and wotls	d bydrology	
6.					¹ Indicators of hydric soil and wetla present, unless disturbed or proble		musi ม ะ
•			=Total Cover		Definitions of Five Vegetation S		
	50% of total cover:		of total cover:				
IJork			UI total cover.		Tree – Woody plants, excluding war approximately 20 ft (6 m) or more		13 in
	Stratum (Plot size: 30)	_	V	5 40	(7.6 cm) or larger in diameter at br		
-	Smilax rotundifolia	5	Yes	FAC	1, , ,		,
-	Lonicera japonica	55	Yes	<u>FACU</u>	Sapling – Woody plants, excluding		
3.					approximately 20 ft (6 m) or more than 3 in. (7.6 cm) DBH.	in height and	less
4. <u>-</u>					Illan 3 III. (7.0 Ciii) DBi i.		
5.					Shrub - Woody Plants, excluding		
6.					approximately 3 to 20 ft (1 to 6 m)	in height.	
7.					Herb – All herbaceous (non-wood)	v) plants_incl	luding
8.					herbaceous vines, regardless of si	.,.	•
9.					plants, except woody vines, less th		
10.					ft (1 m) in height.		
11.					Woody Vine – All woody vines, re	egardless of h	ieight.
· · · -		10 =	=Total Cover		1	9	3
	FOOY of total coview			0			
		5 20%	of total cover:	2	1		
	ody Vine Stratum (Plot size:)						
1							
2.							
3.			. <u></u>				
4.							
				_	1		
5.		-	·		Hydrophytic		
5.		1	=Total Cover				
5.	50% of total cover:		=Total Cover		Vegetation	No	

Depth	ription: (Describe Matrix	to the depti		Feature		ator or co	ommin un	e absence (or indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Te	xture		Remarks
0.12	10VP 4/2	100								
0-12	10YR 4/3	100								
	-								•	-
	ncentration, D=Dep					d Grains.			PL=Pore Lining	
-	ndicators: (Applica	ble to all LF			-					ic Hydric Soils ³ :
Histosol (Į.	Thin Dark Su			-			uck (A9) (LRR	•
	ipedon (A2)	Į.	Barrier Island			512)			uck (A10) (LRF	-
Black His			(MLRA 15		-					A16) (MLRA 149A)
	Sulfide (A4)		Loamy Muck	-		RR O)			d Vertic (F18)	
	Layers (A5)		Loamy Gleye		(F2)			•	ide MLRA 150	•
	Bodies (A6) (LRR P	-	Depleted Ma						•	Soils (F19) (LRR P, T)
	cky Mineral (A7) (LF		Redox Dark		` '				-	odplain Soils (F20)
	esence (A8) (LRR U)	Depleted Da		` '			•	A 153B)	()
	ck (A9) (LRR P, T)	(0.4.4)	Redox Depre	,	⊦8)				rent Material (F	,
	Below Dark Surface	e (A11)	Marl (F10) (L	-	\				nallow Dark Sui	` ,
	rk Surface (A12)	U DA 450A)	Depleted Oc			-	T	-		, 152A in FL, 154)
	airie Redox (A16) (N	· ·	Iron-Mangan), P, I)			nroma Matrix (TS7)
	ucky Mineral (S1) (L	.KK (), (S)	Umbric Surfa		-	-		•	A 153B, 153D)	
	eyed Matrix (S4)	•	Delta Ochric			-	FOD)	Other (I	Explain in Rem	arks)
	edox (S5)		Reduced Ver		-		-			
	Matrix (S6)	T 11	Piedmont Flo				-			
	face (S7) (LRR P, S	-	Anomalous E MLRA 149	_			20)	3Indiant	ore of budrophy	ytic vegetation and
Polyvalue	e Below Surface (S8))	Very Shallow							nust be present,
(LINIX C	s, 1, 0 <i>)</i>	•	(MLRA 13		,	,			s disturbed or	
Postrictivo I	ayer (if observed):		(WEICH 13	0, 13ZA			ı	unies	ss disturbed of	problematic.
Type:	ayer (ii observeu).									
Depth (in	ches):						Hydric	Soil Prese	nt? Yes	s No X
Remarks:										
Nomano.										

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam	City/County: Desoto C	County Sampling Date: 10/9/2024
Applicant/Owner: USACE		State: MS Sampling Point: 4
Investigator(s): Stokes/Ulmer	Section, Township, Range:	
Landform (hillside, terrace, etc.): Inactive FI		
Subregion (LRR or MLRA): LRR O, MLRA 1		90.143719 Datum: NAD83
Soil Map Unit Name: Falaya silty clay loam (NWI classification: Not-Wet
Are climatic / hydrologic conditions on the site	e typical for this time of year? Yes X	No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrol	logy significantly disturbed? Are "Normal C	Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrol		cplain any answers in Remarks.)
<u> </u>	site map showing sampling point locati	· · · ·
Hydrophytic Vegetation Present?	Yes X No Is the Sampled Area	
	Yes No X within a Wetland?	Yes No_X_
I *	Yes X No	
Remarks:		
LIVEROLOGY		
HYDROLOGY		
Wetland Hydrology Indicators:	to the all that are the	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require		Surface Soil Cracks (B6)
Surface Water (A1)	Aquatic Fauna (B13)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns (B10)
Saturation (A3)	Hydrogen Sulfide Odor (C1) Ovidized Phizospheres on Living Poets (C2)	Moss Trim Lines (B16)
Water Marks (B1) Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6)	Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7		X FAC-Neutral Test (D5)
X Water-Stained Leaves (B9)		Sphagnum Moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes	No X Depth (inches):	
	No X Depth (inches):	
Saturation Present? Yes		Hydrology Present? Yes X No
(includes capillary fringe)		
	onitoring well, aerial photos, previous inspections), if a	uvailable:
·	<u>-</u>	
Decree alice		
Remarks:		

/EGETATION (Five Strata) – Use scie	Absolute	Dominant	Indicator	Sampling Point:	4
ree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:	
. Acer rubrum	60	Yes	<u>FAC</u>	Number of Dominant Species	
. Salix nigra		Yes	OBL	That Are OBL, FACW, or FAC: 4	(A)
·				Total Number of Dominant	(D)
-				Species Across All Strata: 4	(B)
				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0	0% (A/
	80	=Total Cover		Prevalence Index worksheet:	<u>J%</u> (A/
50% of total cover:		of total cover:	16	Total % Cover of: Multipl	v bv
apling Stratum (Plot size: 30)		or total cover.		OBL species 20 x 1 =	20
Ulmus crassifolia	5	No	FAC	FACW species 12 x 2 =	24
Acer rubrum	50	Yes	FAC	FAC species 117 x 3 =	351
7.66.7.66.7.6				FACU species 0 x 4 =	0
-				UPL species 0 x 5 =	0
				Column Totals: 149 (A)	395
				` '	2.65
-	 55	=Total Cover		Hydrophytic Vegetation Indicators:	00
50% of total cover:		of total cover:	11	1 - Rapid Test for Hydrophytic Vegeta	ition
nrub Stratum (Plot size:		or total cover.		X 2 - Dominance Test is >50%	uon
				3 - Prevalence Index is ≤3.0¹	
				Problematic Hydrophytic Vegetation ¹	(Explain)
					(Explair)
	_				
				1	
				¹ Indicators of hydric soil and wetland hydropresent, unless disturbed or problematic.	ology mus
	_	=Total Cover		Definitions of Five Vegetation Strata:	
50% of total cover:		of total cover:		Tree – Woody plants, excluding woody vir	200
erb Stratum (Plot size: 30)				approximately 20 ft (6 m) or more in heigh	
Toxicodendron radicans	2	No	FAC	(7.6 cm) or larger in diameter at breast he	ight (DBH
Polygonum pensylvanicum		No	FACW	Sapling – Woody plants, excluding woody	, vines
Polygonum pensylvanicum Chasmanthium laxum	10	Yes	FACW	approximately 20 ft (6 m) or more in heigh	
				than 3 in. (7.6 cm) DBH.	
				Shrub - Woody Plants, excluding woody v	/ines.
				approximately 3 to 20 ft (1 to 6 m) in heigh	
				Howk All book account (non-vice dis) planta	
				Herb – All herbaceous (non-woody) plants herbaceous vines, regardless of size, and	
				plants, except woody vines, less than appl	
).				ft (1 m) in height.	
^ .				Woody Vine – All woody vines, regardless	s of heigh
	14	=Total Cover			
50% of total cover:		of total cover:	3		
oody Vine Stratum (Plot size:)				
	,				
	_				
· .		=Total Cover		Hydrophytic	
50% of total cover		of total cover		Vegetation Present? Ves Y No.	

Remarks: (If observed, list morphological adaptations below.)

Profile Desc Depth	ription: (Describe to Matrix	o the dept		i <mark>ment th</mark> Featur		ator or co	onfirm the abs	ence of ind	licators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Rema	arks	
0-12	10YR 3/3	80	10YR 5/2	20	<u>туро</u>	PL	Loamy/Clay	rey	rtome		
	encentration, D=Deple					d Grains.			ore Lining, M=N		
-	ndicators: (Applicat	ole to all L			-				roblematic Hyd	ric Soils ³ :	
— Histosol			Thin Dark Su			-			A9) (LRR O)		
	ipedon (A2)		Barrier Island			12)		•	A10) (LRR S)		
Black His	` '		(MLRA 15			DD (0)			Redox (A16) (I	/ILKA 149A	A)
	n Sulfide (A4)		Loamy Muck	•	` ' '	.RR O)	<u>?</u> F	Reduced Ver	, ,	·D\	
	Layers (A5)	T 11\	Loamy Gleye		K (F2)			•	ILRA 150A, 150 oodplain Soils (F	•	3 T\
	Bodies (A6) (LRR P, cky Mineral (A7) (LRI	-	Depleted Mar Redox Dark	` '	(E6)				Bright Floodplair		-
	esence (A8) (LRR U)	χι, ι, υ)	Depleted Dai		` '		—	(MLRA 153		1 30113 (1 20	')
	ck (A9) (LRR P, T)		Redox Depre		` '		F	•	Material (F21)		
	Below Dark Surface	(A11)	Marl (F10) (L		()				/ Dark Surface (F22)	
	rk Surface (A12)	,	Depleted Ocl	-	1) (MLR	A 151)		•	ILRA 138, 152A	•	.)
Coast Pr	airie Redox (A16) (M	LRA 150A) , P , T) E	-	ds Low Chroma		-
Sandy M	ucky Mineral (S1) (LF	RR O, S)	Umbric Surfa	ce (F13) (LRR I	P, T, U)		(MLRA 153	3B, 153D)		
Sandy G	leyed Matrix (S4)		Delta Ochric	(F17) (N	ILRA 15	51)		Other (Explai	in in Remarks)		
Sandy R	edox (S5)		Reduced Ver	tic (F18) (MLR A	150A, 15	50B)				
Stripped	Matrix (S6)		Piedmont Flo	odplain	Soils (F	19) (MLR	A 149A)				
Dark Sur	face (S7) (LRR P, S,	T, U)	Anomalous E	Bright Flo	oodplain	Soils (F2	· _				
Polyvalue Below Surface (S8)				(MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and			
(LRR S	S, T, U)		Very Shallow					-	drology must be		
			(MLRA 13	8, 152A	in FL, 1	54)	•	unless dis	turbed or proble	matic.	
	.ayer (if observed):										
Type:											
Depth (in	iches):						Hydric Soil	Present?	Yes	NoX	_
Remarks:											

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam		City/County: Desoto Co	ounty	Sampling Date: 10/9/2024		
Applicant/Owner: USACE				Sampling Point: 5		
Investigator(s): Stokes/Ulmer	Sact	tion, Township, Range:				
		elief (concave, convex,		Slope (%): 0-5		
Landform (hillside, terrace, etc.): Drainage/		•				
Subregion (LRR or MLRA): LRR O, MLRA 1		Long:	90.1388459	Datum: NAD83		
Soil Map Unit Name: Collins silt loam (adler)			NWI classification			
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes X	No (If no, ex	plain in Remarks.)		
Are Vegetation, Soil, or Hydro	logy significantly disturb	oed? Are "Normal C	circumstances" present?	Yes X No		
Are Vegetation, Soil, or Hydro	logy naturally problema	tic? (If needed, exp	olain any answers in Rem	narks.)		
SUMMARY OF FINDINGS – Attach	site map showing sam	npling point location	ons, transects, imp	oortant features, etc.		
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area				
Hydric Soil Present?		within a Wetland?	Yes X	No		
Wetland Hydrology Present?	Yes X No					
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:			Secondary Indicators (m	ninimum of two required)		
Primary Indicators (minimum of one is requi	red; check all that apply)		Surface Soil Cracks			
Surface Water (A1)	Aquatic Fauna (B13)		? Sparsely Vegetated	Concave Surface (B8)		
High Water Table (A2)	Marl Deposits (B15) (LRI	R U)	Drainage Patterns (B10)		
Saturation (A3)	Hydrogen Sulfide Odor (Moss Trim Lines (B	16)		
Water Marks (B1)	X Oxidized Rhizospheres of		Dry-Season Water			
Sediment Deposits (B2)	Presence of Reduced Iro		X Crayfish Burrows (C8)			
X Drift Deposits (B3)	Recent Iron Reduction in	Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	(0)	Geomorphic Position (D2) Shallow Aquitard (D3)			
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	(5)	X FAC-Neutral Test (I			
X Water-Stained Leaves (B9)	,		Sphagnum Moss (D			
Field Observations:		1	Opinagram Mood (E	(2.1.1.1, 0)		
Surface Water Present? Yes	No X Depth (inches):					
	No X Depth (inches):					
Saturation Present? Yes	No X Depth (inches):	Wetland	Hydrology Present?	Yes X No		
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, pro	evious inspections), if a	vailable:			
Remarks:						

/EGETATION (Five Strata) – Use scie	Absolute	of plants. Dominant	Indicator	Sampling Point:	5
Free Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:	
1. Acer rubrum	5	No	FAC	Number of Dominant Species	
2. Salix nigra	20	Yes	OBL	That Are OBL, FACW, or FAC:	3 (
3. Taxodium distichum	10	Yes	OBL	Total Number of Dominant	
l				Species Across All Strata:	3 (
i				Percent of Dominant Species	
5					100.0% (
	35	=Total Cover		Prevalence Index worksheet:	
50% of total cover:	18 20%	of total cover:	7	Total % Cover of: M	ultiply by:
apling Stratum (Plot size: 30)				OBL species 40 x 1 =	40
Taxodium distichum	10	No	OBL	FACW species 0 x 2 =	0
Acer rubrum	50	Yes	FAC	FAC species 55 x 3 =	165
· .				FACU species0 x 4 =	0
				UPL species 0 x 5 =	0
				Column Totals: 95 (A)	205
				Prevalence Index = B/A =	2.16
	60	=Total Cover		Hydrophytic Vegetation Indicators:	
50% of total cover:	30 20%	of total cover:	12	1 - Rapid Test for Hydrophytic Ve	
nrub Stratum (Plot size:)				X 2 - Dominance Test is >50%	9
				X 3 - Prevalence Index is ≤3.0 ¹	
-				Problematic Hydrophytic Vegetati	ion ¹ (Evolain
-		•		1 Toblematic Hydrophytic Vegetati	ion (Explain,
					
	_				
				¹ Indicators of hydric soil and wetland	
				present, unless disturbed or problema	
		=Total Cover		Definitions of Five Vegetation Strat	ia:
50% of total cover:	20%	of total cover:		Tree – Woody plants, excluding wood	
erb Stratum (Plot size: 30)				approximately 20 ft (6 m) or more in h (7.6 cm) or larger in diameter at breas	•
				(7.0 cm) of larger in diameter at breas	st fleight (DD
· .				Sapling – Woody plants, excluding w	
				approximately 20 ft (6 m) or more in h	neight and les
				than 3 in. (7.6 cm) DBH.	
				Shrub - Woody Plants, excluding woo	
	<u> </u>			approximately 3 to 20 ft (1 to 6 m) in h	height.
				Herb – All herbaceous (non-woody) p	lants includi
				herbaceous vines, regardless of size,	
				plants, except woody vines, less than	
).				ft (1 m) in height.	
		-		Woody Vine – All woody vines, regar	dless of heig
·		=Total Cover			Ţ
50% of total cover:		of total cover:			
-		or total cover.			
/oody Vine Stratum (Plot size:	•				
·					
·					
·					
				Hydrophytic	
		=Total Cover		Vegetation	
50% of total cover:	20%	of total cover:		Present? Yes X No	

Remarks: (If observed, list morphological adaptations below.)

Depth (inches) Color (more col	n, D=Depletion, RM= (Applicable to all L	LRRs, unless othe	rwise noted.) Irface (S9) (LRR \$	Grains.	² Location: PL=Pore			
1Type: C=Concentration, I Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (I Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (A	n, D=Depletion, RM= (Applicable to all I	-Reduced Matrix, M -RRs, unless othe 	IS=Masked Sand rwise noted.) urface (S9) (LRR \$	Grains.	² Location: PL=Pore	Lining, M=Matrix.		
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Hydric Soil Indicators: (A Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)	(Applicable to all L)	LRRs, unless other Thin Dark Su Barrier Island	rwise noted.) Irface (S9) (LRR \$					
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (I Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix ()	Thin Dark Su Barrier Island	ırface (S9) (LRR S	S T 11)	Indicators for Prob			
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark S Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (4)	Barrier Island		: T II)		lematic Hydric Soils ³ :		
Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A) Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (I) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (I)	4)		In 4 and March (04)	, , , ,	1 cm Muck (A9)	(LRR O)		
Hydrogen Sulfide (A4) Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (I Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (A		(MLRA 153	is 1 cm iviuck (S1)	2)	2 cm Muck (A10) (LRR S)		
Stratified Layers (A5) Organic Bodies (A6) (I 5 cm Mucky Mineral (A Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (A) Thick Dark Surface (A) Coast Prairie Redox (A) Sandy Mucky Mineral Sandy Gleyed Matrix (A)			-		Coast Prairie Re	edox (A16) (MLRA 149A)		
Organic Bodies (A6) (I 5 cm Mucky Mineral (A Muck Presence (A8) (I 1 cm Muck (A9) (LRR Depleted Below Dark (I Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (5)	Loamy Muck	y Mineral (F1) (LR	(R O)	? Reduced Vertic	(F18)		
5 cm Mucky Mineral (AMuck Presence (A8) (In 1 cm Muck (A9) (LRR) Depleted Below Dark Strick Dark Surface (AMucky Presence (AMucky Mineral Sandy Gleyed Matrix (In 1 cm Mucky Mineral Sandy Gleyed Mat	• /	Loamy Gleye	ed Matrix (F2)		(outside MLR	A 150A, 150B)		
Muck Presence (A8) (In the first state of the first	· ·	X Depleted Mat	` ,			plain Soils (F19) (LRR P, T)		
1 cm Muck (A9) (LRR Depleted Below Dark S Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (` ,			ht Floodplain Soils (F20)		
Depleted Below Dark S Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (rk Surface (F7)		(MLRA 153B)			
Thick Dark Surface (A Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (? Redox Depre			Red Parent Mate			
Coast Prairie Redox (A Sandy Mucky Mineral Sandy Gleyed Matrix (Marl (F10) (L	-	454\	 ·	ark Surface (F22)		
Sandy Mucky Mineral Sandy Gleyed Matrix (` ,		hric (F11) (MLRA	-		A 138, 152A in FL, 154)		
Sandy Gleyed Matrix (ese Masses (F12)	-	· —	ow Chroma Matrix (TS7)		
			ice (F13) (LRR P, (F17) (MLRA 151		(MLRA 153B, Other (Explain ir			
	X (O4)		tic (F18) (MLRA 1		Other (Explain ii	i Nemarks)		
Stripped Matrix (S6)			oodplain Soils (F19		9Δ)			
Dark Surface (S7) (LR			Bright Floodplain S		,			
Polyvalue Below Surfa			9A, 153C, 153D)	(1 20)	³ Indicators of hy	drophytic vegetation and		
(LRR S, T, U)	(,		Dark Surface (F2	22)	wetland hydrology must be present, unless disturbed or problematic.			
, , , ,			8, 152A in FL, 154	•				
Restrictive Layer (if obse	served):							
Type:								
Depth (inches):				Ну	dric Soil Present?	Yes X No X		
Remarks:								

WETLAND DETERMINATION DATA SHEET – Atlantic and Gulf Coastal Plain Region

See ERDC/EL TR-10-20; the proponent agency is CECW-CO-R

Project/Site: Arkabutla Dam	City/County:	Desoto County	Sampling Date: 10/9/2024			
Applicant/Owner: USACE		State: MS	Sampling Point: 6			
Investigator(s): Stokes/Ulmer	Section, Township	o, Range: 34-T4S-R9W	·			
Landform (hillside, terrace, etc.): Flat		, convex, none): slope	Slope (%): 0-5			
Subregion (LRR or MLRA): LRR O, MLRA 1	•	Long: -90.1393335	Datum: NAD83			
Soil Map Unit Name: Richland silt loam, seve		NWI classificati				
· · · · · · · · · · · · · · · · · · ·			•			
Are climatic / hydrologic conditions on the site			xplain in Remarks.)			
Are Vegetation, Soil, or Hydrol		"Normal Circumstances" present?				
Are Vegetation, Soil, or Hydrol	ogynaturally problematic? (If ne	eeded, explain any answers in Rei	marks.)			
SUMMARY OF FINDINGS – Attach	site map showing sampling poin	t locations, transects, im	portant features, etc.			
Hydrophytic Vegetation Present?	Yes No X Is the Sample	ed Area				
• • •	Yes No X within a Wetl		No X			
	Yes No X					
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:		· · · · · · · · · · · · · · · · · · ·	minimum of two required)			
Primary Indicators (minimum of one is required)		Surface Soil Crack				
Surface Water (A1)	Aquatic Fauna (B13)		d Concave Surface (B8)			
High Water Table (A2)	Marl Deposits (B15) (LRR U)	Drainage Patterns				
Saturation (A3)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (E	Dry-Season Water Table (C2)			
Water Marks (B1)	Oxidized Rhizospheres on Living Roots		Crayfish Burrows (C8)			
Sediment Deposits (B2) Drift Deposits (B3)	Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C		Saturation Visible on Aerial Imagery (C9)			
Algal Mat or Crust (B4)	Thin Muck Surface (C7)	· · · · · · · · · · · · · · · · · · ·	Geomorphic Position (D2)			
Iron Deposits (B5)	Other (Explain in Remarks)	Shallow Aquitard (I	` '			
Inundation Visible on Aerial Imagery (B7		FAC-Neutral Test (•			
Water-Stained Leaves (B9)	,	Sphagnum Moss (I	` '			
Field Observations:		op 100 gram 11000 (, (,			
Surface Water Present? Yes	No X Depth (inches):					
	No X Depth (inches):					
Saturation Present? Yes		Wetland Hydrology Present?	Yes No X			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, previous inspect	ions), if available:				
Remarks:						

VEGETATION (Five Strata) – Use scient	ific names	•		Sampling Point:	6
Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1				Number of Dominant Species That Are OBL, FACW, or FAC:	0 (A)
3. 4.				Total Number of Dominant Species Across All Strata:	1 (B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:).0% (A/B)
		=Total Cover		Prevalence Index worksheet:	
50% of total cover:	20%	of total cover:		Total % Cover of: Mult	tiply by:
Sapling Stratum (Plot size: 30)				OBL species 5 x 1 =	5
1				FACW species 0 x 2 =	0
2				FAC species 5 x 3 =	15
3.				FACU species 55 x 4 =	220
4.				UPL species 0 x 5 =	0
5				Column Totals: 65 (A)	240 (B)
6.				Prevalence Index = B/A =	3.69
		=Total Cover		Hydrophytic Vegetation Indicators:	
50% of total cover:	20%	of total cover:		1 - Rapid Test for Hydrophytic Vege	etation
Shrub Stratum (Plot size:)				2 - Dominance Test is >50%	
1				3 - Prevalence Index is ≤3.0 ¹	
2.	·			Problematic Hydrophytic Vegetation	n ¹ (Explain)
3.				<u> </u>	
1					
5.				¹ Indicators of hydric soil and wetland hy	drology must be
6.				present, unless disturbed or problematic	
		=Total Cover		Definitions of Five Vegetation Strata:	
50% of total cover:	20%	of total cover:		Tree – Woody plants, excluding woody	
Herb Stratum (Plot size: 30)				approximately 20 ft (6 m) or more in hei	
1. Rumex crispus	5	No	FAC	(7.6 cm) or larger in diameter at breast	height (DBH).
2. Rubus trivialis	10	No	FACU	Sapling – Woody plants, excluding woo	ndy vines
3. Trifolium repens	45	Yes	FACU	approximately 20 ft (6 m) or more in hei	
Ranunculus laxicaulis	5	No	OBL	than 3 in. (7.6 cm) DBH.	3
_			OBL	Shrub - Woody Plants, excluding wood	v vines
5. 6.				approximately 3 to 20 ft (1 to 6 m) in he	•
7.					
8.		•		Herb – All herbaceous (non-woody) pla herbaceous vines, regardless of size, <u>a</u>	
				plants, except woody vines, less than a	
10				ft (1 m) in height.	,
				Woody Vine – All woody vines, regardl	ess of height
11	65	Total Cover		The state of the s	occ oe.g
500/ of total answer.		=Total Cover	40		
50% of total cover:	33 20%	of total cover:	13		
Woody Vine Stratum (Plot size:)					
1.		-			
2.					
3.					
4					
5				Hydrophytic	
		=Total Cover		Vegetation	
50% of total cover:		of total cover:		Present? Yes No	X
Remarks: (If observed, list morphological adaptation	ons below.)				

Depth	ription: (Describe t Matrix	io ine dep		k Featur		ator of CC	minim are absence	o muic	atui 3. <i>j</i>		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture		Ren	narks	
0-12	10YR 5/3	100									
0-12	10110 3/3	100									
								_			
¹ Type: C=Co	ncentration, D=Depl	etion, RM=	Reduced Matrix, M	1S=Mas	ked San	d Grains.			e Lining, M=		
Hydric Soil I	ndicators: (Applica	ble to all L	RRs, unless othe	rwise n	oted.)		Indicator	s for Pro	blematic Hy	/dric Soils³:	
Histosol ((A1)		Thin Dark Su	urface (S	9) (LRR	S, T, U)	1 cm	Muck (A9	9) (LRR O)		
Histic Ep	ipedon (A2)		Barrier Island	ds 1 cm	Muck (S	12)	2 cm	Muck (A1	10) (LRR S)		
Black His	` '		(MLRA 15	3B, 153	D)		Coas	t Prairie F	Redox (A16)	(MLRA 149A)	
Hydroger	Sulfide (A4)		Loamy Muck	y Miner	al (F1) (L	RR O)	Redu	ced Verti	c (F18)		
Stratified	Layers (A5)		Loamy Gleye	ed Matri	x (F2)		(ou	tside ML	RA 150A, 15	50B)	
Organic I	Bodies (A6) (LRR P,	T, U)	Depleted Ma	trix (F3)			Piedn	nont Floo	dplain Soils	(F19) (LRR P, T)	
5 cm Mu	cky Mineral (A7) (LR	Redox Dark	Redox Dark Surface (F6)					•	in Soils (F20)		
	esence (A8) (LRR U))	Depleted Da	rk Surfa	ce (F7)		(ML	.RA 153B	3)		
1 cm Mu	ck (A9) (LRR P, T)		Redox Depre	essions	(F8)		Red Parent Material (F21)				
Depleted	Below Dark Surface	e (A11)	Marl (F10) (L	.RR U)			Very	Shallow D	Dark Surface	(F22)	
	rk Surface (A12)			Depleted Ochric (F11) (MLRA 151)				tside ML	RA 138, 152	2A in FL, 154)	
Coast Pra	airie Redox (A16) (N	ILRA 150A	.)Iron-Mangan	Iron-Manganese Masses (F12) (LRR O,				er Islands	Low Chrom	a Matrix (TS7)	
Sandy M	ucky Mineral (S1) (L	RR O, S)	Umbric Surfa	ace (F13	3) (LRR I	P, T, U)	(ML	.RA 153B	3, 153D)		
Sandy G	eyed Matrix (S4)		Delta Ochric	(F17) (I	MLRA 15	51)	Other	(Explain	in Remarks))	
Sandy Re	edox (S5)		Reduced Ve	rtic (F18) (MLRA	150A, 15	50B)				
Stripped	Matrix (S6)		Piedmont Flo	oodplain	Soils (F	19) (MLR	A 149A)				
Dark Sur	face (S7) (LRR P, S	, T, U)	Anomalous I	Bright Fl	oodplain	Soils (F2					
	e Below Surface (S8)	-	(MLRA 149A, 153C, 153D)				³ Indicators of hydrophytic vegetation and			
(LRR S	S, T, U)			Very Shallow Dark Surface (F22)				wetland hydrology must be present,			
			(MLRA 13	8, 152A	in FL, 1	54)	unl	ess distu	rbed or prob	lematic.	
	ayer (if observed):										
Type:											
Depth (in	ches):						Hydric Soil Pres	sent?	Yes	NoX	
Remarks:											