

Abundant Life Christian Center
Waters of the U.S. Delineation Report
Bay Minette, Baldwin County, Alabama



Prepared for:

Abundant Life Christian Center
514 Old Daphne Road
Bay Minette, AL 36507

Prepared By:



11 North Water Street, Suite 15250
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February 2, 2024

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SECTION 1 INTRODUCTION

Goodwyn Mills Cawood, LLC (GMC) has completed a waters of the U.S., including wetlands and streams, delineation on the ±5.29-acre site located off of Old Daphne Road in Bay Minette, Baldwin County, Alabama (Figure 1). The property can further be described as being located in Township-2-South, Range-3-East, and Section 16 (Figure 3). The center coordinates for the site are latitude 30.874156° and longitude -87.775494°.

1.1 Current Site Conditions

The site is located off of Old Daphne Road in Bay Minette, Baldwin County, Alabama. The site consists of a Church, maintained field, and hardwood forested area (Figure 2). The Church and maintained field are located in the southwest portion and the hardwood forested area is located throughout the northeast and southeast portion of the site. The surrounding land consists of residential development.

SECTION 2 WATERS OF THE U.S. DELINEATION

2.1 Methods

Prior to visiting the site, GMC biologists reviewed available maps including aerial photography (historical and current), USGS quadrangle, Baldwin County Soil Survey, National Wetland Inventory (NWI) map, and Federal Emergency Management (FEMA) maps in order to determine the potential for waters of the U.S. at the site. The 2023 aerial imagery depicts a building and maintained field in the southwest corner and a hardwood forested area throughout the rest of the site (Figure 2). The Bay Minette, Alabama USGS Quadrangle Map (Figure 3) and NWI Map (Figure 5) depict no wetlands or streams throughout the property. A review of the FEMA flood map revealed that the property is located outside of the Special Flood Hazard Area (SFHA) within Zone X (Figure 6). According to the Baldwin County Soil Survey, the project area contains one (1) soil with a hydric component: Grady soils. These soils have a hydric rating of 85 which indicates that 85% of the mapped soil components meet the criteria of a hydric soil. The Gr soil is located throughout the central portion of the site.

GMC visited the project site on January 19, 2024 to identify and delineate potential waters of the U.S. including wetlands and streams. Wetland areas are delineated in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. The wetlands are delineated using soil augers to sample and compare soil colors against the Munsell color chart to determine whether the soils meet the USACE criteria of hydric soils. The wetland boundaries are flagged according to the three required wetland criteria (vegetation, hydrology, and soils). Jurisdictional streams are classified as intermittent or perennial. All waters of the U.S. identified on site were surveyed with a mapping grade (sub meter) GPS system. A summary of the resources found on site is below.

2.2 Delineated Resources

Streams

On the day of the site visit, two (2) drainage ditches (D-1 and D-2) were identified on the subject property. D-1 and D-2 are man-made dug ditches. D-1 is situated at the property’s southwest corner, extending along the southern boundary, before its confluence with D-2. D-2 is located in northern portion of the site and extends south through the central portion of the property. See Appendix A for figures depicting the location of the ditches. The table below shows the linear footage of each ditch. General photographs of the ditches are attached in Appendix B.

Ditch	Linear Feet (Lf)
D-1	383.8
D-2	334.2



General view of D-2.

Wetlands

One (1) wetland (W-1) was delineated during the site visit. W-1 is located along the northeast and southeastern portions of the site and consists of a hardwood forested wetland. A description of the three wetland field indicators observed within the wetland area can be found below. The table below shows the acreage of the wetland delineated on site. General photographs of W-1 are attached in Appendix B. Please refer to the Wetland Data Determination Sheets in Appendix C.

Wetland Resources	Acres (Ac)
W-1	1.59

2.2.1 Vegetation

W-1 consists of hardwood forested wetland containing a tree canopy and shrub layer. Sweet-Bay Magnolia (*Magnolia virginiana*) was found within W-1. This species is classified as a facultative wetland species (usually occur in wetlands but occasionally found in non-wetlands); and they are indicative of vegetation found in wetland ecosystems.

2.2.2 Hydrology

The subject site was found on the 1980 Photorevised 1985 Bay Minette, Alabama, U.S. Geological Survey Quadrangle map. The subject site ranges in elevation from approximately 75-80 feet above mean sea level. Wetland hydrology indicators observed on site include presence of reduced iron, saturation, high water table, and crayfish burrows.

2.2.3 Soils

Soil samples were observed throughout the subject site and hydric soils were identified within W-1. A hydric soil is one that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper horizons. Redox features within the soil matrix and pore lining were noted throughout W-1. According to the Baldwin County Soil Survey, the project area contains two (2) soil types: Malbis fine sandy loam, 0 to 2 percent slopes and Grady soils. A list of the following soil types is described below.

- **Malbis fine sandy loam, 0-2% slopes (MaA)**
The Malbis series consists of very deep, moderately well or well drained, moderately to slowly permeable soils on broad interfluves and uplands of the Southern Coastal Plain. Most areas of Malbis soils have been cleared and are used for the cultivation of corn, cotton, potatoes, peanuts and soybeans. Forested areas consist of loblolly pine, slash pine, shortleaf pine, longleaf pine, sweetgum, and red oak. Areas of pastureland are mainly planted to bermudagrass, Bahia grass, and small grains.
- **Grady soils (Gr)**
The surface layer of these soils is very dark gray to black. The texture of the subsoil ranges from sandy loam to clay. Mapped with these soils are areas that have a surface layer of fine sandy loam to silty clay loam. Also included are some areas where the surface layer is muck to a depth of as much as 12 inches. About 5 percent of the acreage of Grady soils occurs within areas of Norfolk, Ruston, and Goldsboro soils and in those areas the surface layer and subsoil are sandier than those in the profile described as typical of the series. In some places there is a concretionary pan in the profile. These areas are all too small to be mapped separately.

According to the Baldwin County hydric soil list, one (1) of the soil types listed above is listed as being hydric: Grady soils.



View of reduced iron and depleted matrix located within W-1.

SECTION 3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions and Recommendations

Goodwyn Mills Cawood, LLC (GMC) has completed a waters of the U.S., including wetlands and streams, delineation on the ±5.29-acre site located off of Old Daphne Road in Bay Minette, Baldwin County, Alabama. One (1) wetland area and two (2) ditches have been identified on the site. The U.S. Army Corps of Engineers (USACE) has final authority when determining the jurisdiction of a water resource. A Jurisdictional Determination can be submitted to the USACE, if needed. If impacts to wetlands are expected, it is recommended that the appropriate USACE permit be obtained prior to construction.

SECTION 4 REFERENCES

U.S. Geological Survey, Bay Minette, Alabama topographic quadrangle, 1:24,000 scale

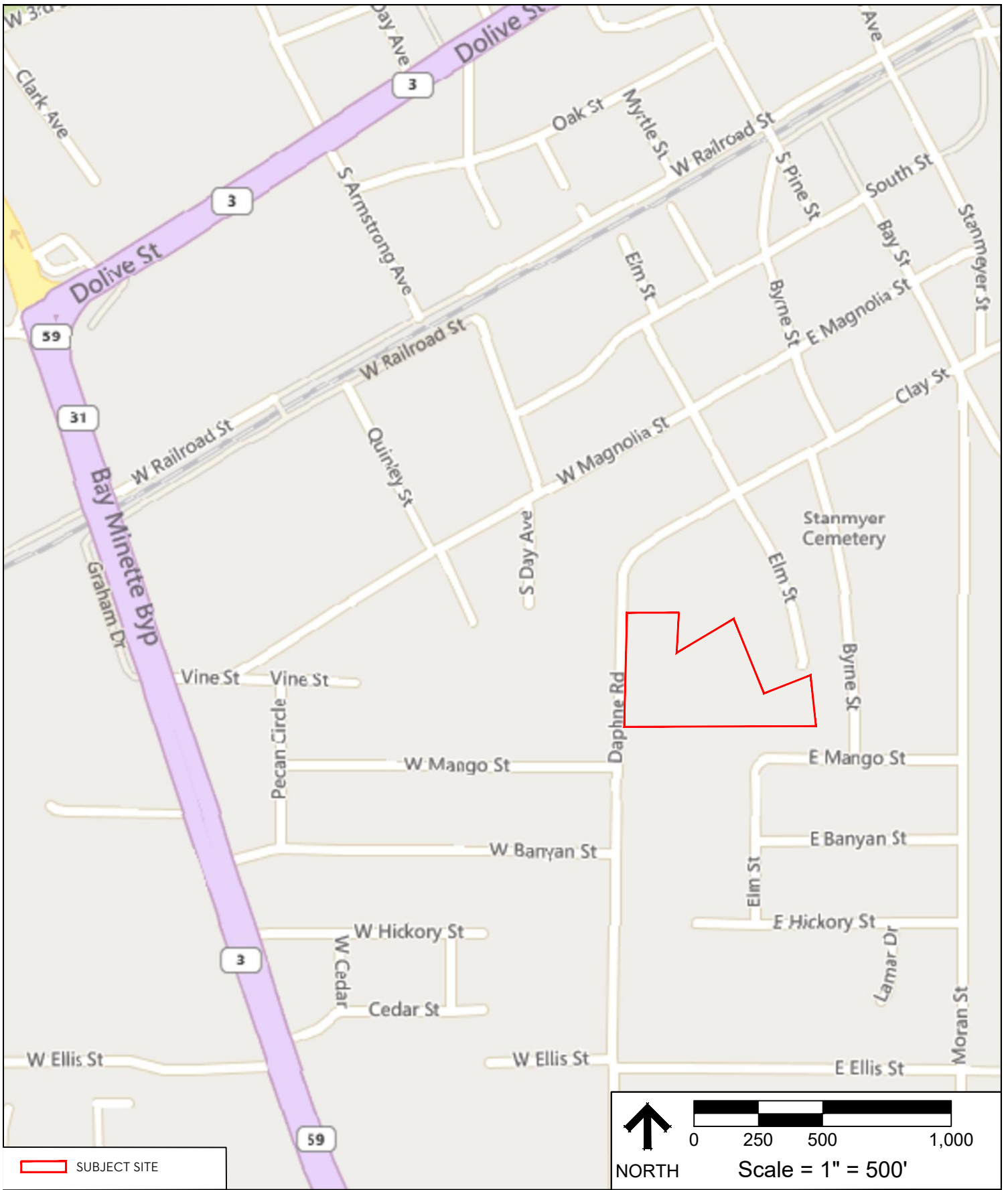
<https://www.fws.gov/program/national-wetlands-inventory>

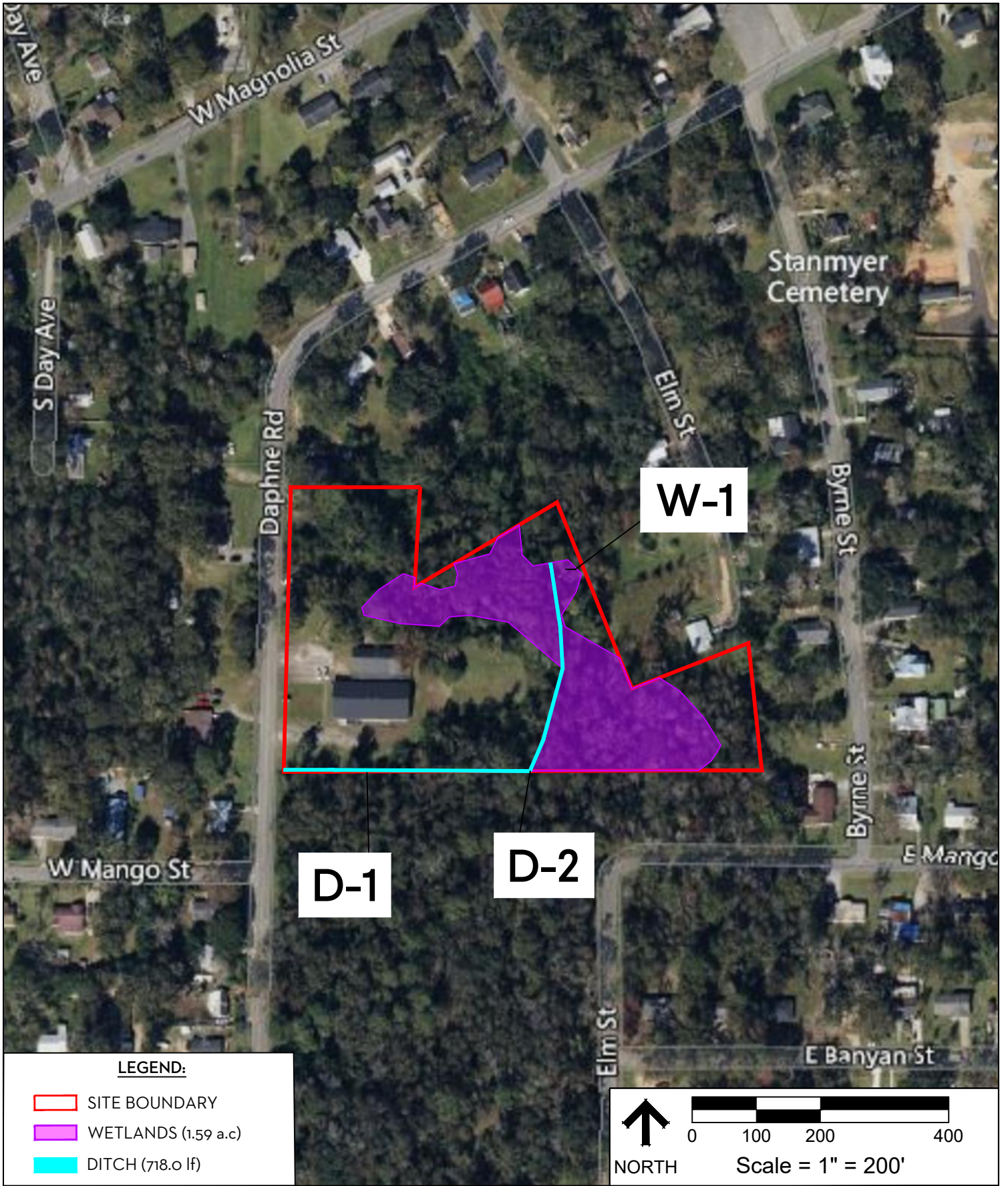
<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

https://isv.kcsgis.com/al.baldwin_revenue/

<https://msc.fema.gov/portal/search?AddressQuery=mobile%20al#searchresultsanchor>

APPENDIX A





LEGEND:

- SITE BOUNDARY
- WETLANDS (1.59 a.c)
- DITCH (718.0 lf)



NORTH



Scale = 1" = 200'

REF. SHEET: ESRI WORLD IMAGERY
DESCRIPTION: WATERS OF THE U.S. DELINEATION

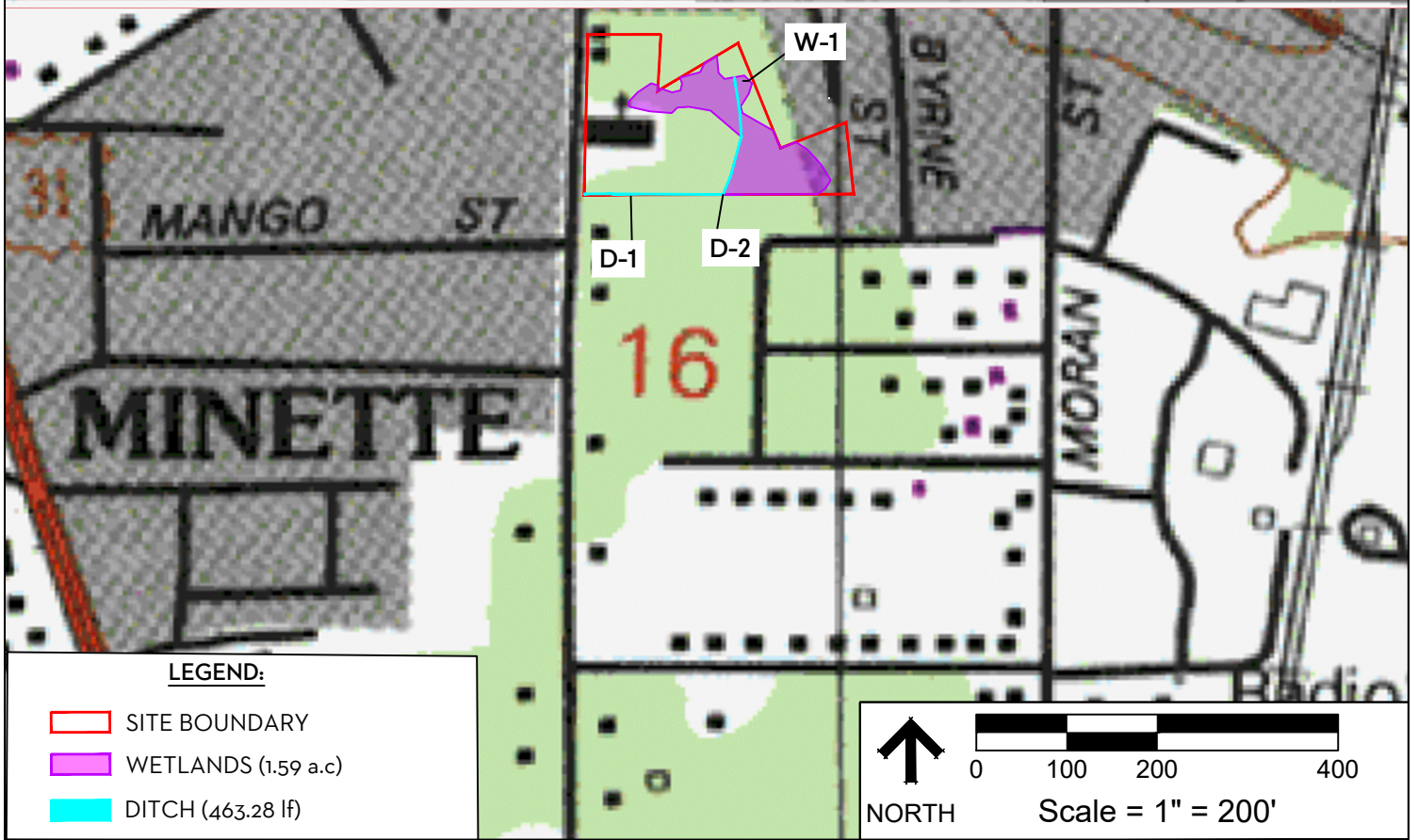
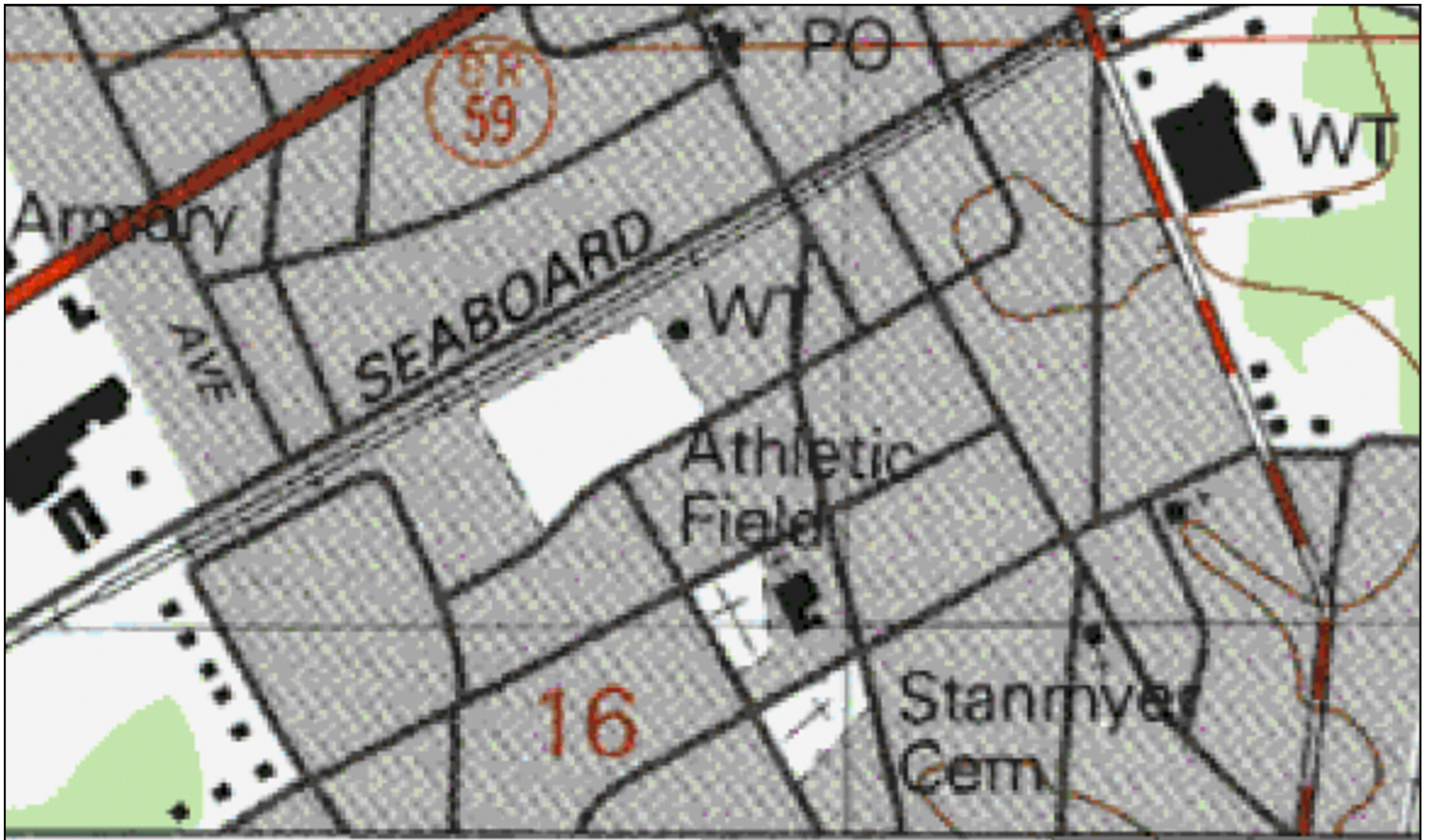
Abundant Life Christian Center
BAY MINETTE, BALDWIN COUNTY, ALABAMA

FIGURE 2

AERIAL PHOTOGRAPH
GMC # EMOB240003
DATE: 01/25/2024
DRAWN BY: ARW

11 North Water Street, Suite 15250
Mobile, AL 36602
T 251.460.4006
GMCNETWORK.COM





REF. SHEET: 1980 PHOTOREVISED 1985 BAY MINETTE, ALABAMA QUADRANGLE MAP
DESCRIPTION: WATERS OF THE U.S. DELINEATION

Abundant Life Christian Center
BAY MINETTE, BALDWIN COUNTY, ALABAMA

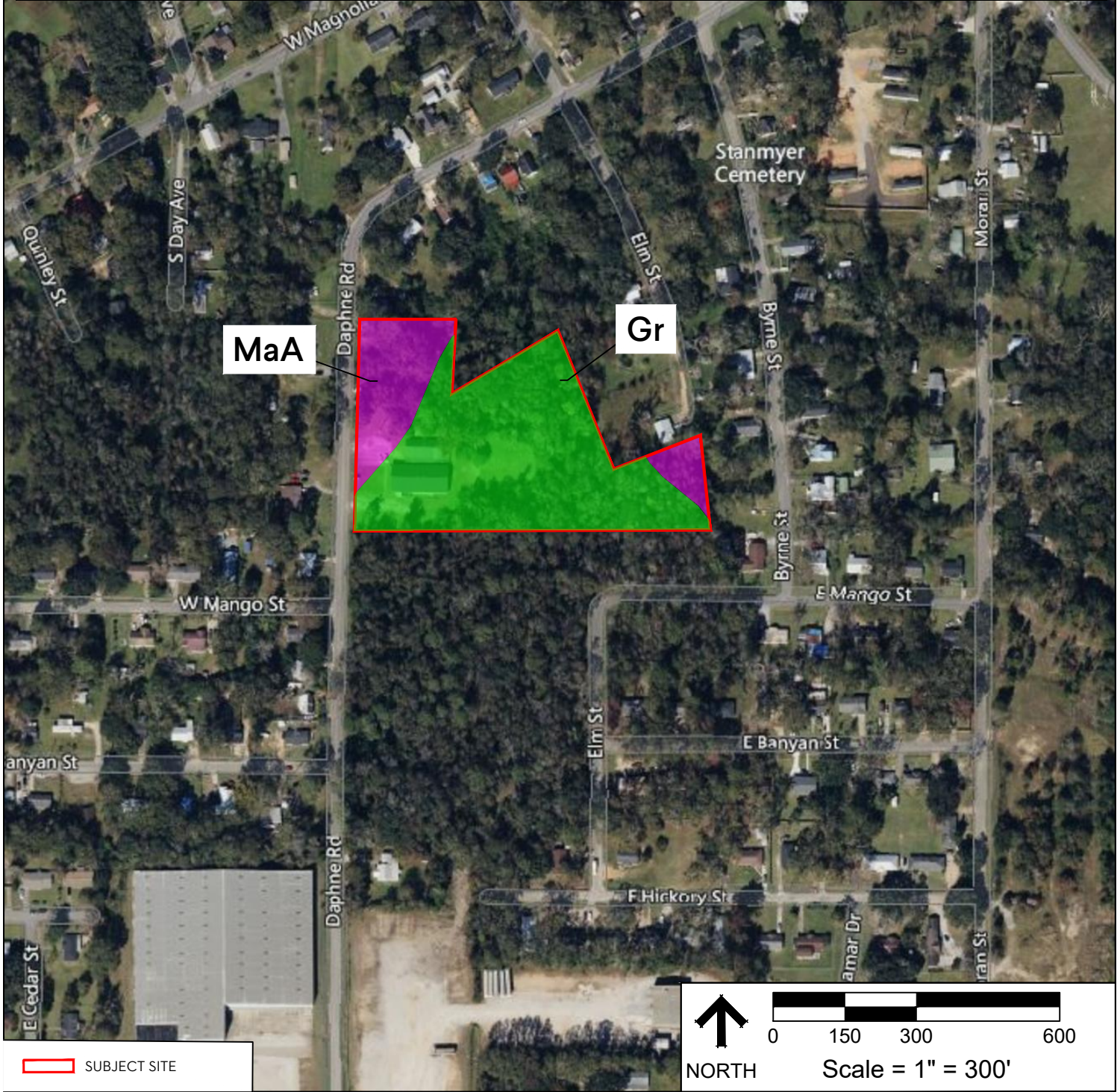
FIGURE 3

USGS QUADRANGLE MAP
GMC # EMOB240003
DATE: 01/25/2024
DRAWN BY: ARW

11 North Water Street, Suite 15250
Mobile, AL 36602
T 251.460.4006
GMCNETWORK.COM



Map Unit Symbol	Map Unit Name
Gr	Grady soils
MaA	Malbis fine sandy loam, 0 to 2 percent slopes



REF. SHEET: BALDWIN COUNTY SOIL SURVEY
 DESCRIPTION: WATERS OF THE U.S. DELINEATION

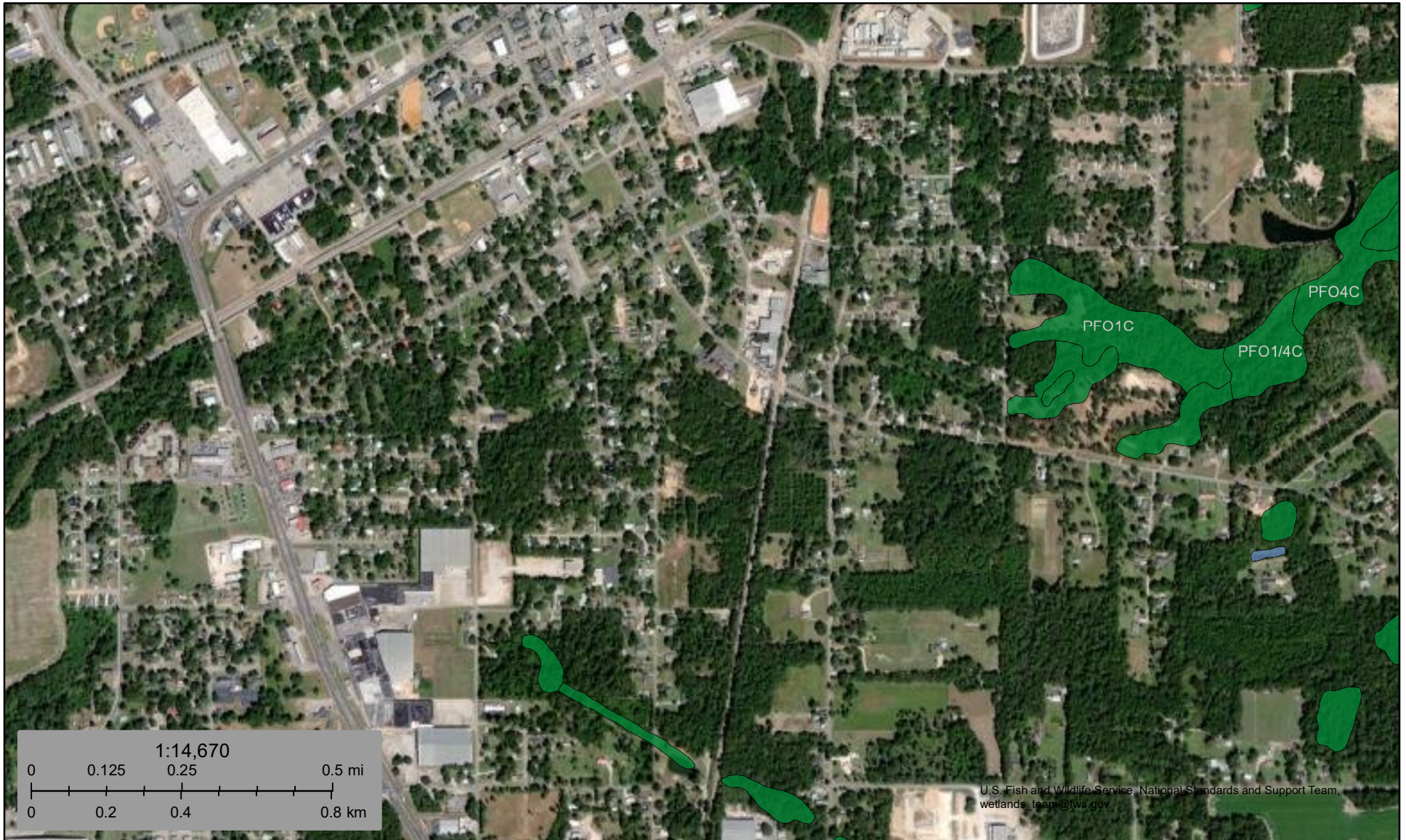
Abundant Life Christian Center
 BAY MINETTE, BALDWIN COUNTY, ALABAMA

FIGURE 4

SOILS MAP
 GMC # EMOB240003
 DATE: 01/25/2024
 DRAWN BY: ARW

11 North Water Street, Suite 15250
 Mobile, AL 36602
 T 251.460.4006
 GMCNETWORK.COM





January 18, 2024

Wetlands

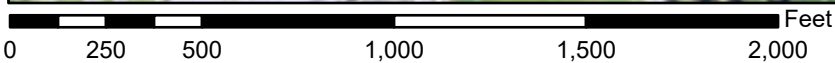
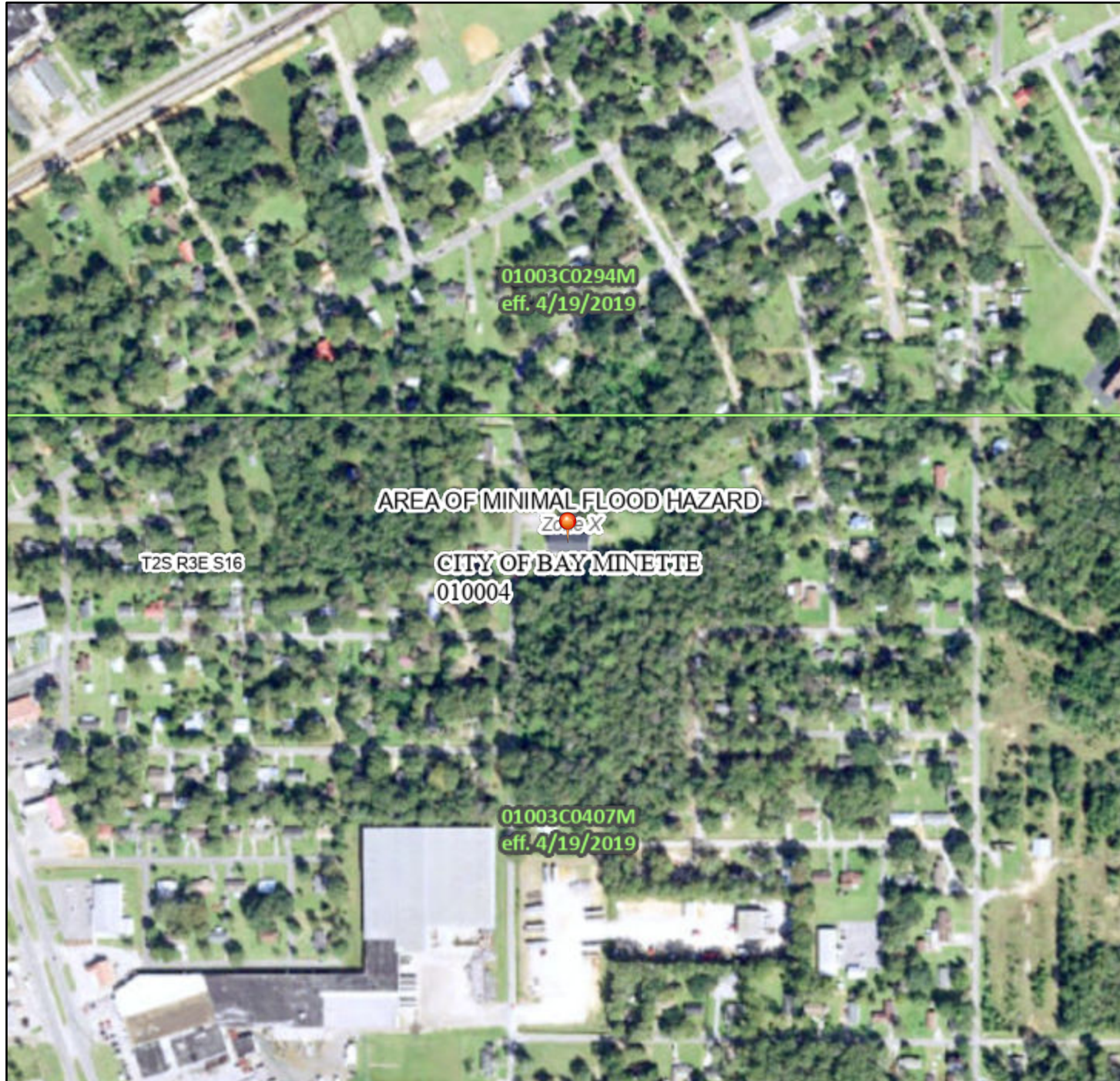
- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | 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 Flood Hazard Layer FIRMMette



87°46'52"W 30°52'42"N



1:6,000

87°46'15"W 30°52'11"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
		The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/30/2024 at 12:41 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX B

P-1



General view of the church onsite.

P-2



General view of the maintained field onsite.

P-3



General view of D-1 located in the southwest corner of the site, extending east.

P-4



General view of D-2 located in the central portion of the site, extending north.

P-5



General view of the southern portion of W-1.

P-6



General view of the southern portion of W-1.

P-7



General view of representative soils within W-1.

APPENDIX C

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Abundant Life Church City/County: Bay Minette Baldwin County Sampling Date: 1-19-2024
 Applicant/Owner: Abundant Life Church State: AL Sampling Point: Wet Data
 Investigator(s): Rob Carlton, Ashtyn Walmsley, Kevin Cain Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: 30.874118 Long: -87.775355 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3" BLS</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: Wet Data

Tree Stratum (Plot sizes: <u>30 ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus nigra (Water Oak)</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>11</u> (A) Total Number of Dominant Species Across All Strata: <u>11</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. <u>Magnolia grandiflora (Southern Magnolia)</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
3. <u>Magnolia virginiana (Sweet Bay)</u>	<u>10</u>	<u>yes</u>	<u>FACW</u>	
4. <u>Liquidambar styraciflua (Sweet gum)</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	
5. <u>Acer rubrum (Red Maple)</u>	<u>2</u>	<u>no</u>	<u>FAC</u>	
6. _____				
7. _____				
<u>77%</u> = Total Cover				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 = _____
Sapling Stratum (<u>15 ft</u>)				
1. <u>Quercus nigra (Water Oak)</u>	<u>15</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Magnolia virginiana (Sweet Bay)</u>	<u>5</u>	<u>yes</u>	<u>FACW</u>	
3. <u>Magnolia grandiflora (Southern Magnolia)</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
4. _____				
5. _____				
<u>25%</u> = Total Cover				
Shrub Stratum (<u>15 ft</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
1. <u>Ligustrum sinense (Privet)</u>	<u>30</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Magnolia virginiana (Sweet Bay)</u>	<u>5</u>	<u>no</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>35%</u> = Total Cover				
Herb Stratum (<u>5 ft</u>)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) 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. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. <u>Rubus sp.</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>5%</u> = Total Cover				
Woody Vine Stratum (<u>30 ft</u>)				
1. <u>Smilax sp.</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: Wet Data

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/1	100					loam	saturated
5-10	10YR 5/2	90	10YR 6/6	10	RM	PL	clay	saturated
10-12+	10YR 5/2	80	10YR 6/6	20	RM	PL	clay	saturated

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- 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 Soils³:

- 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) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Abundant Life Church City/County: Bay Minette Baldwin County Sampling Date: 1-19-2024
 Applicant/Owner: Abundant Life Church State: AL Sampling Point: Dry Data
 Investigator(s): Rob Carlton, Ashtyn Walmsley, Kevin Cain Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): _____
 Subregion (LRR or MLRA): _____ Lat: 30.874118 Long: -87.775355 Datum: NAD83
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) ___ Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) ___ Saturation (A3) ___ Marl Deposits (B15) (LRR U) ___ Water Marks (B1) ___ Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> ___ 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)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: Dry Data

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot sizes: <u>30 ft</u>)				
1. <u>Chinese Tallow (Triadica sebifera)</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>5%</u> = Total Cover				
Sapling Stratum (<u>15 ft</u>)				
1. <u>Quercus nigra (Water Oak)</u>	<u>8</u>	<u>yes</u>	<u>FAC</u>	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 = _____
2. <u>Acer negundo (Box Elder)</u>	<u>3</u>	<u>yes</u>	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>11%</u> = Total Cover				
Shrub Stratum (<u>15 ft</u>)				
1. <u>Ligustrum sinense (Privet)</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Quercus nigra (Water Oak)</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
<u>55%</u> = Total Cover				
Herb Stratum (<u>5 ft</u>)				
1. <u>Trifolium sp. (Clover)</u>	<u>60%</u>	<u>yes</u>	_____	Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) 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. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. <u>Viola odorata (Sweet Violet)</u>	<u>5%</u>	<u>no</u>	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
<u>65%</u> = Total Cover				
Woody Vine Stratum (<u>30 ft</u>)				
1. <u>Lygodium japonicum (Climbing Fern)</u>	<u>5</u>	<u>yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5%</u> = Total Cover				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: Dry Data

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-9	10YR 3/4	100					sandy <input checked="" type="checkbox"/>	
9-12+	7.5YR 5/8	100					sandy <input checked="" type="checkbox"/>	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- 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 Soils³:

- 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) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____



Hydric Soil Present? Yes _____ No

Remarks:

APPENDIX D

Ashtyn Walmsley, QCI

Environmental Scientist

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Ashtyn is an environmental scientist in GMC's Mobile, Alabama office with experience in National Pollutant Discharge Elimination System (NPDES) stormwater permitting, Waters of the U.S. wetland delineations and permitting, United States Department of Agriculture (USDA) environmental information documentation and state concurrence. She is a valuable member of our team and makes a positive impact with her contribution to GMC's environmental initiatives.



Management Plan Experience

- Bayou La Batre Stormwater Management Plan – Bayou La Batre, AL

Stream Restoration Experience

- Selma-Dixon – Selma, AL
- Wolf Run - Wiggins, MS

Wetland Delineation Experience

- Gaineswood Subdivision – Fairhope, AL
- Riviera Utilities – Foley, AL
- Loxley Warehouses – Loxley, AL
- Loxley Water Capacity – Loxley, AL
- MAWSS Eslava Creek – Mobile, AL
- Ecovery – Loxley, AL

Phase I Environmental Site Assessment Experience

- Gaineswood Subdivision – Fairhope, AL
- Loxley Warehouses – Loxley, AL
- Shellbank River Landing – Spanish Fort, AL
- Whispering Pines – Daphne, AL

NEPA Environmental Assessment Experience

- Monte Sano State Park – Huntsville, AL
- 2022 DWSRF Water System Improvements – Russell County, AL

Mitigation Monitoring Experience

- Midcreeks Mitigation Bank – Eufala, AL
- Wolf Run – Wiggins, MS

Invasive Species Removal Experience

- Midcreeks Mitigation Bank – Eufala, AL
- Broadview Mitigation Bank – Eufala, AL

Construction Stormwater Experience

- OWA RV Resort – Foley, AL
- Juniper Street Extension – Foley, AL
- Bay Street Suidivision – Foley, AL
- Battles Trace – The Colony
- Gulf Shores High School – Gulf Shores, AL
- LeFlore High School – Mobile, AL

Education:

Bachelor of Biological Sciences with an Emphasis in Conservation, University of Southern Mississippi, 2022

Certifications:

- Qualified Credential Inspector (QCI)

Additional Training:

- Nature Based Stormwater Solutions Workshop – The Nature Conservancy
- Phase I Environmental Site Assessment - The Environmental Institute
- Substantial Damage Workshop - FEMA