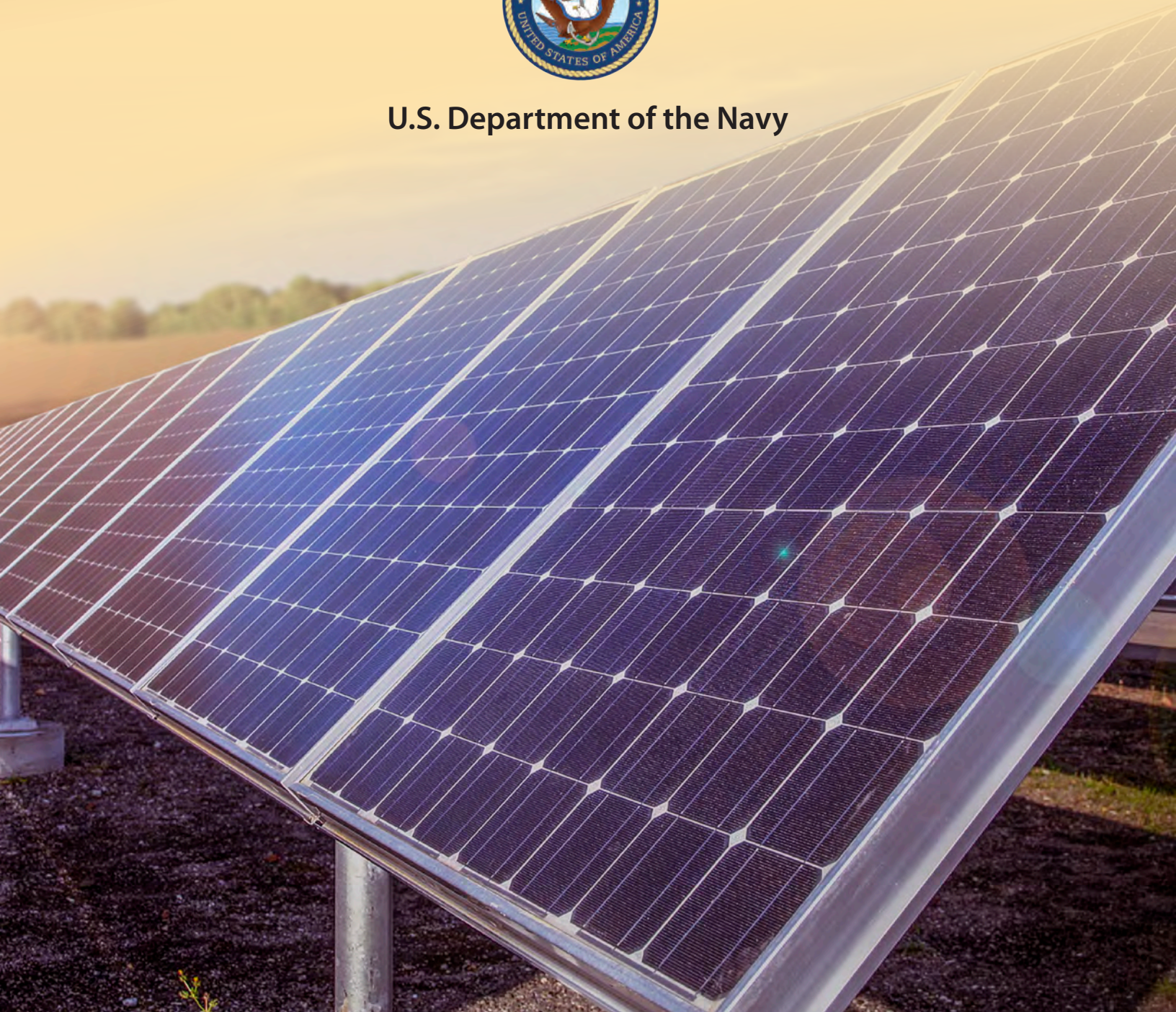
April 2017

Environmental Assessment
for the Lease of Property to Support the Construction and Operation of a Solar Photovoltaic System at

Naval Air Station Meridian, Mississippi

U.S. Department of the Navy



Environmental Assessment for the Lease of Property to Support the Construction and Operation of a Solar Photovoltaic System at Naval Air Station Meridian, Mississippi

April 2017

Prepared by:

United States Department of the Navy

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Lead Agency:
United States Department of the Navy

In accordance with Office of the Chief of Naval Operations M-5090.1

ENVIRONMENTAL ASSESSMENT FOR THE LEASE OF PROPERTY TO SUPPORT THE CONSTRUCTION AND OPERATION OF A SOLAR PHOTOVOLTAIC SYSTEM AT NAVAL AIR STATION MERIDIAN, LAUDERDALE AND KEMPER COUNTIES, MISSISSIPPI

APRIL 2017

Abstract

The U.S. Department of the Navy is proposing to lease land for the construction and operation of a solar photovoltaic (PV) system at Naval Air Station (NAS) Meridian located in Lauderdale and Kemper counties, Mississippi. The Navy's preferred alternative is to lease up to 40 acres at the main base at NAS Meridian to a third-party solar power developer that would construct and operate the solar PV system, consisting of PV cells that collect energy from sunlight for the production of electricity and associated infrastructure and interconnection facilities. Up to 5 acres of existing utility right-of-way would be required for the interconnection line. The total project area is approximately 45 acres. The renewable energy thus created would feed into the commercial electrical energy grid, which also distributes power to NAS Meridian. Land would be leased for an estimated 37 years. After the terms of the lease expire, the Navy and the developer would consider a range of options, including renewing the lease or decommissioning the system. As required by the Council on Environmental Quality regulations, this environmental assessment also analyzes the No Action Alternative.

The purpose of the proposed action is to increase Navy installation energy security, strategic flexibility, and resource availability through the development of renewable energy-generating assets at NAS Meridian. The proposed action is needed to meet the renewable energy standards put forth by the Secretary of the Navy, which include the requirement to produce 50 percent of the Navy's shore-based energy supply from alternative sources by 2020, as well as other federal directives, including Executive Order 13693, Planning for Federal Sustainability in the Next Decade.

Resource areas reviewed in the document include land use, utilities and infrastructure, socioeconomics and environmental justice, cultural resources, air quality, biological resources, water resources, hazardous materials and waste, topography and soils, public safety, visual setting, traffic and transportation, and noise. The environmental analysis of these resource areas found no significant impacts.

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Executive Summary

ES.1 Introduction

This environmental assessment (EA) evaluates the reasonably foreseeable environmental consequences of the U.S. Department of the Navy's (the Navy's) proposal to lease land for the construction and operation of a solar photovoltaic (PV) system at Naval Air Station (NAS) Meridian, located in Lauderdale and Kemper counties, Mississippi. NAS Meridian is located 15 miles northeast of downtown Meridian, Mississippi, and 10 miles west of the Mississippi-Alabama state line.

This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); (42 United States Code [U.S.C.] 4321); Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500); and Navy procedures for implementing NEPA (32 CFR 775). The Navy is the lead agency for the proposed action. The action proponent for this project is the Commander, Navy Installations Command.

ES.2 Description of the Proposed Action

The purpose of the proposed action is to increase Navy installation energy security, strategic flexibility and resource availability through the development of renewable energy-generating assets at NAS Meridian. The proposed action is needed to meet the renewable energy standards put forth by the Secretary of the Navy, which include the requirement to produce 50 percent of the Navy's shore-based energy supply from alternative sources by 2020, as well as other federal directives, including Executive Order 13693, Planning for Federal Sustainability in the Next Decade.

The Navy's preferred alternative is to lease up to 45 acres at the main base at NAS Meridian a third-party solar power developer that would construct and operate the solar PV system consisting of PV cells that collect energy from sunlight for the production of electricity and associated infrastructure and interconnection facilities. Up to 5 acres of existing utility right-of-way (ROW) would be required for the approximately 1-mile interconnection line connecting the new solar array to an existing substation on base. The total project area is approximately 45 acres. The renewable energy thus created would feed into the commercial electrical energy grid, which also distributes power to NAS Meridian.

ES.3 Alternatives

This EA evaluates two alternatives: leasing land for the construction and operation of the solar PV system and the No Action Alternative. In compliance with NEPA and CEQ regulations, the No Action Alternative must be considered and associated potential impacts evaluated. Other renewable technologies also were initially considered for development at NAS Meridian but were eliminated from further analysis in this EA (see Chapter 2).

Under the No Action Alternative, the construction and operation of a solar PV system would not occur. Thus, various federal statutes and Executive Orders (EOs) that mandate changes in energy consumption and production would not be addressed, and the No Action Alternative would not increase renewable energy production or use. The No Action Alternative would neither meet the renewable energy objectives of the Navy nor meet the goals, purpose, and need for the proposed action.

Although the No Action Alternative does not meet the Navy's purpose and need, the inclusion of this alternative is prescribed by CEQ regulations and is carried forward for analysis in this EA. The No Action Alternative also serves as a baseline against which the impacts of the proposed action can be evaluated.

ES.4 Description of Site Location

The proposed solar array site is an approximately 40-acre forested parcel. The site is north of Rabbit Road, near the intersection of Clayton Corner Road and Fuller Road. The site is relatively flat, dominated by loblolly pine, and is managed for timber production. The proposed 1-mile interconnection route follows an existing cleared utility ROW along Fuller Road that would connect the solar array to an existing substation on base. The ROW is approximately 30-feet wide. The total project area is approximately 45 acres.

Initially, the Navy identified three large parcels at NAS Meridian – the Rabbit Road Site (176 acres), the Mud Lake Site (305 acres), and the Stables Site (176 acres) – and two large parcels of NOLF Joe Williams (280 acres and 158 acres) that would satisfy these criteria. Based on further evaluation of existing site constraints, such as topography and wetlands, and interconnection and regional transmission infrastructure requirements, one site was selected and evaluated in this EA. The proposed solar array site is an approximately 40-acre portion of the original 176-acre Rabbit Road Site.

ES.5 Summary of Potential Environmental Impacts

This EA describes the potential environmental impacts of the proposed action on the existing environmental resources. Resource areas that were considered but were not carried forward for detailed analysis in the EA (because potential impacts from the proposed action would not be expected or would be considered to be discountable) are as follows:

- Visual Resources
- Water Supply and Wastewater Infrastructure
- Geology
- Traffic and Transportation
- Noise
- Farmland.

The resource areas that were analyzed in the EA are summarized below.

No significant impacts would result from the proposed action.

ES.5.1 Land Use

- Existing on-base land use would change from managed forestland to a utility use.
- The action would be consistent with future land use plans at NAS Meridian and would not conflict with existing or future Navy operations.
- No direct impact on adjacent land uses would occur.
- The electrical utility lines and transformer equipment for the interconnection would be installed among existing compatible equipment and existing utility ROW. A small segment of new interconnection line (approximately 200 feet long) would be co-located with a new access road to the site.

ES.5.2 Utilities and Infrastructure

Electrical System

- Development of the solar PV system would increase the amount of renewable electrical energy on the commercial grid and would contribute to meeting Navy and national renewable energy goals.
- Minor impacts would occur on the installation's electrical infrastructure and would have to be modified and upgraded to accommodate the new solar PV system. A new 1-mile long 12 kilovolt (kV) interconnection line would be required from the proposed site to the existing utility substation. A small segment of new interconnection line (approximately 200 feet long) would be co-located with a new access road to the site.

Stormwater Management

- The minimal ground disturbance activities would require a General Permit for Construction Stormwater from the State of Mississippi for stormwater discharges. A Stormwater Pollution Prevention Plan (SWPPP) would be required in association with the General Permit; the SWPPP must include best management practices (BMPs) to reduce soil erosion and prevent contaminated stormwater from leaving the construction site.

ES 5.3 Air Quality and Greenhouse Gases

- Temporary, negligible, direct impacts on air quality from emitting air pollutants during construction (and operation).
- Minor, beneficial, indirect impact on air quality from reduction in regional criteria pollutant emissions from decreasing the reliance on fossil fuel-derived electricity by increasing the contribution of electricity from renewable energy sources.
- Indirect and beneficial impact on greenhouse gas (GHG) emissions in the region from the decreasing the reliance on fossil fuel-derived electricity by increasing the contribution of electricity from renewable energy sources.

ES.5.4 Socioeconomics and Environmental Justice

Socioeconomics

- No impacts on local or regional populations, demographics, or the local or regional housing market would occur during the construction or operation of the proposed solar PV system.
- Some short-term positive economic impacts on the local and statewide economy would occur during the construction phase and, to a lesser extent, during the operation phase of the proposed solar project.

Environmental Justice

- Environmental justice communities are located within the study area. There would be no disproportionately high or adverse human health or environmental effect on these populations because no significant negative environmental or human health impacts would be expected as a result of construction or operation of this project.
- No potential environmental or safety risks for children would occur.

ES.5.5 Cultural Resources

- No effect on architectural or archaeological resources that are historic properties would occur because none are present within the area of potential effects (APE). The Navy consulted with the Mississippi State Historic Preservation Office (SHPO) and other interested parties on the effects of the proposed action at NAS Meridian in compliance with the Section 106 process.
- No effect on known Native American resources. No Native American resources have been identified within the APE to date; however, in compliance with the Section 106 process, the Navy consulted with three federally recognized tribes with an interest in the NAS Meridian complex—the Mississippi Band of Choctaw Indians, the Choctaw Nation of Oklahoma, and the Jena Band of Choctaw Indians—on the effects of the proposed action at NAS Meridian.

ES.5.6 Biological Resources

Vegetation

- Implementation of the proposed action would result in long-term impacts on vegetative communities within the proposed site and access road (approximately 40 acres). The interconnection line would utilize existing cleared ROW (approximately 5 acres).

Wildlife

- Potential for minor, temporary behavioral impacts on wildlife during construction and operation.
- BMPs and protective measures would minimize impacts.

Threatened and Endangered Species

- No threatened and endangered species are known to occur in the area of the proposed site; therefore, there would be no impacts on federally or state-listed species.

ES.5.7 Water Resources

Surface Water and Water Quality

- No direct impact on surface waters on or adjacent to the proposed sites would result because the solar PV system infrastructure would be sited to avoid surface waters, including a 15-foot buffer zone surrounding all jurisdictional surface waterbodies.
- Minor indirect impacts on water quality could result from erosion, sedimentation, and potential spills during construction.
- Temporary, minor impacts during operations and maintenance (O&M) from solar panel washwater runoff and an increased area of impervious surface.

Wetlands

- Minor impact on wetlands within the proposed solar array site because trees would be cleared within wetlands to reduce potential shading; however, all solar PV system infrastructure would be sited to avoid wetlands, including a 30-foot buffer zone surrounding all jurisdictional wetlands. Trees would either be cut and left in place or pulled out, minimizing ground disturbance.

- Indirect impacts, similar to those described for surface waters, could temporarily result from construction and O&M. Trees would be cleared in wetlands within the site boundary; however, no direct impacts such as grubbing, grading, or fill would occur.
- Compliance with permit conditions and regulations, implementation of BMPs, and stormwater management design would ensure that only minor impacts on wetlands would result.

Groundwater

- Potential for minor impacts from erosion and sedimentation.
- Minor indirect impacts on water quality from erosion, sedimentation, and potential spills during construction.
- BMPs would reduce or eliminate potential impacts.

Floodplains

- Potential for direct and indirect impacts within the interconnection ROW.
- All infrastructure within the proposed project site and access road would be outside the floodplain boundary; however, trees would be cleared in the floodplain. No direct impacts such as grubbing, grading, or fill would occur in the floodplain.

ES.5.8 Hazardous Materials and Waste

Installation Restoration Program

- No Installation Restoration Program (IRP) sites are located within the proposed site. IRP Site 1 is located outside the proposed boundary, and the proposed action would have no impact on land use controls and ongoing monitoring efforts.

Hazardous Waste and Hazardous Materials

- Implementation of the proposed action could result in minor impacts related to the handling and disposition of hazardous materials and waste. Hazardous wastes generated during operation would be managed in accordance with the Hazardous Waste Management Plan (HWMP), the Hazardous Waste (HW) and Non-hazardous Waste (NHW) Management Guide, and other applicable installation management plans. All applications of pesticides/herbicides would follow procedures and protocols outlined in the Integrated Pest Management Plan (IPMP); applicable local, state, and federal requirements; and manufacturer guidelines.

ES.5.9 Topography and Soils

- Implementation of the proposed solar PV system would result in a negligible to minor impact on topography, depending upon final site design.
- Construction of the proposed solar PV system would have minor impacts on soils due to the potential for soils to erode and/or be compacted. Implementation of BMPs specified in the Erosion, Sedimentation, and Pollution Control Plan would minimize impacts on soils from erosion.

ES.5.10 Public Safety

Glint and Glare

- The National Renewable Energy Laboratory (NREL) conducted a glint and glare study and found no potential for glare at the air traffic control tower at NAS Meridian and either no glare or a low potential for glare for the approach paths and flyovers studied. In addition, because the Navy and the developer would comply with federal policy and guidance, the proposed action would not result in significant impacts on aviation-related safety.

Electromagnetic Fields

- Electromagnetic field (EMF) levels from the solar PV facilities and electrical lines would be below International Commission on Non-Ionizing Radiation Protection (ICNIRP)-recommended exposure guidelines for the general public, resulting in negligible impacts.

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Acronyms and Abbreviations

AC	alternating current
ACHP	Advisory Council on Historic Preservation
AICUZ	air installation compatible use zone
amsl	above mean sea level
APE	area of potential effects
ATCT	Air Traffic Control Tower
BASH	bird-animal aircraft strike hazard
BMP	best management practice
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CH_4	methane
CNATRA	Chief of Naval Air Training
CNIC	Commander, Navy Installations Command
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalency
CSP	concentrating solar power
CWA	Clean Water Act
DC	direct current
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DOE	Department of Energy
EA	environmental assessment
EIA	Energy Information Administration
EISA	Energy Independence and Security Act
EMEPA	East Mississippi Electric Power Association
EMF	electromagnetic field
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 2005

ER	environmental restoration
ERP	Environmental Restoration Program
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FAA	Federal Aviation Administration
FPPA	Farmland Protection Policy Act
FR	*Federal Register*
FTE	full-time equivalent
FY	fiscal year
GHG	greenhouse gas
GSHP	ground-source heat pump
GW	gigawatt
GWP	Global Warming Potential
HAPs	hazardous air pollutants
HW	hazardous waste
HWMP	Hazardous Waste Management Program
Hz	hertz
ICNIRP	International Commission on Non-ionizing Radiation Protection
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Conservation (System)
IPM	integrated pest management (program)
IPMP	integrated pest management plan
IRP	Installation Restoration Program
IWDM	integrated wildlife damage management
kV	kilovolt
kV/m	kilovolt per meter
kW	kilowatt
kWh	kilowatt hours
LID	low-impact development
LUC	land use control
MDEQ	Mississippi Department of Environmental Quality
mG	milligauss
MMNS	Mississippi Museum of Natural Science
MOU	memorandum of understanding

$MTCO_2e$	metric tons of carbon dioxide equivalency
MW	megawatt
MWh	megawatt hours
NAAQS	National Ambient Air Quality Standards
NAAS	Naval Auxiliary Air Station
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
Navy	United States Department of the Navy
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act
NHW	non-hazardous waste
NIEHS	National Institute of Environmental Health Sciences
NO_2	nitrogen dioxide
N_2O	nitrous oxide
NOLF	Navy Outlying Landing Field
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
O_3	ozone
O&M	operations and maintenance
OHWM	ordinary high water mark
Pb	lead
PCS	power conditioning system
PEM	palustrine emergent wetland
PFO	palustrine forested wetland
POL	petroleum, oil, and lubricants
PPA	power purchase agreement
PSS	palustrine scrub/shrub wetland
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
PV	photovoltaic
RCRA	Resource Conservation and Recovery Act
REC	Renewable Energy Certificate

REPO	Resilient Energy Program Office
ROW	right-of-way
SARA	Superfund Amendments and Reauthorization Act
SEARCH	Southeastern Archaeological Research, Inc.
SERC	Southeastern Energy Reliability Corporation
SGHAT	Solar Glare Hazard Analysis Tool
SHPO	State Historic Preservation Office(r)
SHW	solar hot water
SIP	state implementation plan
SO_2	sulfur dioxide
SPCC	spill prevention, control, and countermeasures
SRTV	SERC Tennessee Valley
SVP	solar ventilation pre-heating
SWPPP	stormwater pollution prevention plan
TVA	Tennessee Valley Authority
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
V/m	volts per meter
yr	year

1 Purpose and Need for the Proposed Action

1.1 Introduction

The U.S. Department of the Navy (Navy) has prepared this environmental assessment (EA) to evaluate the environmental consequences of the proposed lease for the construction and operation of a solar photovoltaic (PV) system at Naval Air Station (NAS) Meridian located in Lauderdale and Kemper counties, Mississippi (Figure 1-1). Other renewable technologies were initially considered for development at NAS Meridian and Navy Outlying Landing Field (NOLF) Joe Williams but were eliminated from further analysis in this EA, as discussed in Chapter 2 (Section 2.3).

The Navy's proposed action is to lease approximately 40 acres at NAS Meridian to a third-party solar power developer that would construct and operate the solar PV system, consisting of PV cells that collect energy from sunlight for the production of electricity and associated infrastructure and interconnection facilities. Up to 5 acres of existing utility right-of-way (ROW) would be required for the approximately 1-mile interconnection line that would connect the solar array to an existing substation on base. The total project area is approximately 45 acres. The renewable energy thus created would feed into the commercial electrical energy grid, which also distributes power to NAS Meridian.

Land would be leased for an estimated 37 years, which includes 2 years for construction and testing, 25 years for operation, and two 5-year options. After the terms of the lease expire, the Navy and the developer would consider a range of options, including renewing the lease or decommissioning the system.

This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); (42 United States Code [U.S.C.] 4321); Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1500); and Navy procedures for implementing NEPA (32 CFR 775). The Navy is the lead agency for the proposed action. The action proponent for this project is the Commander, Navy Installations Command (CNIC).

1.2 Background

The Navy's energy strategy is centered on energy security, efficiency, and sustainability while remaining the pre-eminent maritime power.

- Energy security is critical to mission success. Energy security safeguards the Navy's energy infrastructure and shields the Navy from a volatile energy supply.
- Efficiency increases mission effectiveness. Efficiency improvements minimize operational risks while saving lives, time, and money.
- Sustainable energy efforts protect mission capabilities. Investment in environmentally responsible technologies afloat and ashore reduces greenhouse gas (GHG) emissions and lessens dependence on fossil fuels (Navy n.d.]).

In October 2009, the Secretary of the Navy established alternative energy goals for the Navy's shore-based installations to meet by 2020. These goals include the following:

1) The Navy will produce or procure at least 50 percent of the total quantity of electric energy consumed by shore-based facilities and activities each fiscal year (FY) from alternative energy sources.

2) 50 percent of Navy installations will be net zero *i.e.*, over the course of an FY, an installation matches or exceeds the electrical energy it consumes ashore with electrical energy generated from alternative energy sources (Navy 2012).

The Navy's goals and energy strategy are aligned with alternative and renewable energy policies being developed throughout the federal government and that have continued to evolve:

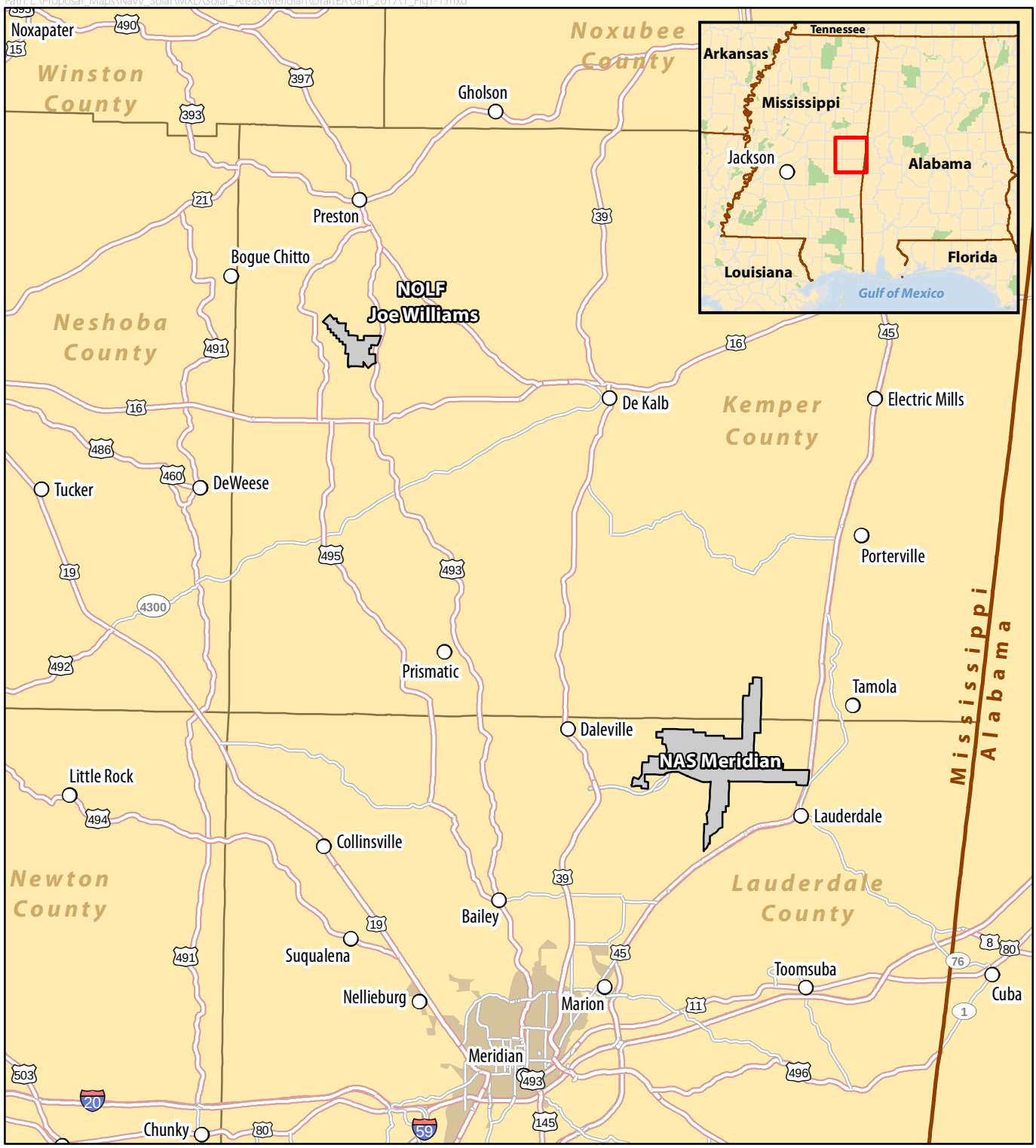
- **Energy Policy Act of 2005 (EPAct) (42 U.S.C. 15852):** Section 203 of the EPAct requires that the federal government seek to ensure that, to the extent economically feasible and technically practical, not less than 7.5 percent of the energy consumed in any fiscal year is renewable.
- **Title 10 U.S.C. 2911(e):** This statute requires the submission of an energy performance master plan and performance goals, including the goal to produce or procure 25 percent of the total quantity of energy consumed within Department of Defense (DOD) facilities from renewable sources by 2025 and each FY thereafter.
- **Presidential Memorandum "Federal Leadership on Energy Management" (2013):** Requires federal agencies to produce or procure from renewable sources 20 percent of the electricity consumed by facilities by FY 2020 and each FY thereafter, an amount that represents a more aggressive goal than under the EPAct or 10 U.S.C. 2911(e). The memorandum states that the renewable energy consumption target be achieved by: 1) installing agency-funded renewable energy on-site at federal facilities, or 2) contracting for energy that includes the installation of a renewable energy project on site at a federal facility.
- **EO 13693, Planning for Federal Sustainability in the Next Decade (2015):** This Executive Order (EO) replaced EO 13514 and the 2013 presidential memorandum and set new goals and timelines for use of renewable electrical energy by federal agencies.

Under EO 13693, actions that may be considered to meet the percentage goals for building electrical energy and thermal energy usage that are accounted for by renewable electrical energy and alternative energy include:

- Installing agency-funded renewable energy on-site at federal facilities, including installing fuel cell energy systems; and
- Contracting for the purchase of energy that includes the installation of renewable energy projects on-site at a federal facility.

In support of the Secretary of the Navy's 2009 energy goals and the federal renewable energy goals, the Secretary of the Navy created the 1 Gigawatt (GW) Initiative—named for the amount of renewable energy generation capacity to be deployed by 2020 (Navy 2012) either on or near Navy installations.

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SCALE

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Military Installation Boundary

Figure 1-1

Regional Location Map

NAS Meridian

Lauderdale and Kemper Counties, Mississippi

Base Layer Credits: ESRI, 2015

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With the 1 GW Initiative, the Navy took a more aggressive approach to implement cost-effective and mission-compatible renewable energy projects to support its shore facilities. To achieve 1 GW of renewable energy generation capacity by 2020, the Navy recognized the need to develop opportunities for large-scale projects that would be attractive to local utilities and that leasing land for construction and operation of a solar PV system would support the goal of renewable energy for both on- and off-base consumption using the commercial or public electrical energy grid (McGinn 2015).

The Navy established the Resilient Energy Program Office (REPO) in order to specifically work with local commercial utilities to use private-sector funds to construct renewable energy facilities on Navy land.

1.3 Purpose and Need

The purpose of the proposed action is to increase Navy installation energy security, strategic flexibility, and resource availability through the development of renewable energy-generating assets at NAS Meridian. The proposed action is needed to meet the renewable energy standards put forth by the 1 GW Initiative and the Secretary of the Navy's 2009 energy goals, which include the requirement to produce 50 percent of the Navy's shore-based energy supply from alternative sources by 2020, as well as other federal directives, including EO 13693.

1.4 Project Location

NAS Meridian is located 15 miles northeast of downtown Meridian, Mississippi, and 10 miles west of the Mississippi-Alabama state line. Situated in the North Central Hills region of the state, the main base of NAS Meridian occupies 8,061 acres. In addition to the main base, the NAS Meridian complex includes NOLF Joe Williams and Target Range SEARAY. NAS Meridian is located in the northeastern portion of Lauderdale County; a portion of the base extends into southeastern Kemper County. NOLF Joe Williams is 18 miles northwest of the main base in northwestern Kemper County (Figure 1-1). Target Range SEARAY is located farther north in Noxubee County. Although NOLF Joe Williams was considered for PV development, the proposed project site is at the main base only.

Construction of NAS Meridian began in 1957 and was first commissioned by the Navy in 1961 as a Naval Auxiliary Air Station (NAAS). The airfield was named McCain Field in honor of Admiral John S. McCain, Sr. In July 1961, Training Squadron Seven (VT-7) was relocated to the installation and became the first squadron to arrive at NAAS Meridian. By July 1968, the station had become a full Naval Air Station. In October 1982, the station was upgraded to a Major Shore Command, and in 1984 NAS Meridian was one of 15 installations chosen for the DOD Model Installation Program (CNIC 2015). Today, NAS Meridian is one of the largest air stations in the southeastern United States. A total of 3,048 personnel are stationed at or working at NAS Meridian, including 1,574 military personnel and 1,474 civilians and contractor employees (Woolpert 2010).

NAS Meridian's mission is to support Navy war fighters by providing premier jet strike aviation and technical training services and facilities in a safe and secure environment. NAS Meridian is one of the Chief of Naval Air Training's (CNATRA's) two jet strike pilot training bases. CNATRA oversees the Naval Air Training Command and is composed of five wings. NAS Meridian is home to TRAWING ONE, composed of squadrons VT-7 and VT-9 instructing student naval aviators in the Boeing T-45C "Goshawk," the Navy's most advanced strike jet trainer (Naval Facilities Engineering Command [NAVFAC] Southeast [SE] 2012). NAS Meridian also hosts additional training organizations that include the Naval Technical Training Center, Marine Aviation Training Support Squadron One, Regional Counterdrug Training Academy, and the Naval Operational Support Center.

1.5 Scope of the EA

1.5.1 Resource Areas Analyzed in Detail

This EA evaluates the reasonably foreseeable environmental impacts of the Navy's proposed action to lease approximately 40 acres to a third-party solar developer for the construction and operation of a solar PV system that would generate electricity to supply the existing electrical energy grid. Up to 5 acres of existing utility ROW would be required for the approximately 1-mile interconnection line that would connect the PV system to an existing substation on base.

The resource areas that have the potential to be affected by the proposed action evaluated in this EA are as follows:

- Land Use
- Utilities and Infrastructure
- Socioeconomics and Environmental Justice
- Cultural Resources
- Air Quality
- Biological Resources
- Water Resources
- Hazardous Materials and Waste
- Topography and Soils
- Public Safety.

1.5.2 Resource Areas Not Carried Forward for Detailed Analysis

Several other resource areas were considered but were not carried forward for detailed analysis in this EA because potential impacts from the proposed action would not be expected to occur or would be considered negligible. Consistent with CEQ regulations (40 CFR 1501.7) for determining the scope of issues to be addressed, the Navy has identified and eliminated from detailed study the issues or resources that are not potentially significant, narrowing the discussion of these issues to a brief presentation that demonstrates why they would not have a significant impact on the human environment. Resources not analyzed further in this EA are as follows:

- Visual Resources
- Water Supply and Wastewater Infrastructure
- Geology
- Traffic and Transportation
- Noise
- Farmland.

Visual Resources

The proposed site of the solar PV facility is within the installation boundary. The proposed location is in the western portion of the main property near the airfield. No residential or commercial areas are adjacent

to the proposed site. Overall, the land on the proposed site has a rolling to flat terrain and is used for timber production and hunting activities. As the proposed site is not within any sensitive viewsheds, the proposed project would have no impact on visual resources.

Water Supply and Wastewater Infrastructure

Neither water supply and nor wastewater infrastructure are located within the proposed site. The proposed action would not require changes to any water supply or wastewater infrastructure, would not affect drinking water demand or capacity for the project area, and would not generate wastewater that would require transport to or treatment at local wastewater treatment facilities. During operation of the solar PV system, minimal water use for panel washing is expected throughout the life of the system as the amount of expected rainfall in the region is typically adequate to keep the panels clean. Any water needed for operations or maintenance at the site would be supplied by truck; no water supply or wastewater infrastructure would be needed. This water would either evaporate or be contained on-site as stormwater runoff. Therefore, the proposed action would have no impact on those resources.

Geology

Although construction of the solar PV system would require land clearing, grading, and ground disturbance at the proposed site, those activities would be largely surficial and limited to the top few feet of ground surface. The proposed site does not overlie areas of unstable geology with a potential for on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, the proposed action would have no impact on geological resources.

Traffic and Transportation

NAS Meridian is north of Interstate 20 (I-20), and U.S. Highway 45 (US 45) is located along the eastern boundary of the installation. The main gate is accessed via State Highway 39 (SR 39) and John C. Stennis Drive. Internal roads provide direct access to the proposed site.

A temporary increase in traffic would occur during construction. However, impacts would be short-term (estimated construction duration of approximately six to eight months), and delivery of equipment to the site would be similar to that typically required for road construction projects and would not pose unique transportation considerations. The transportation of large pieces of equipment would be subject to U.S. Department of Transportation requirements and to federal, state, and local regulations for vehicle lengths and weights on public roads.

During operations and maintenance (O&M), a limited number of personnel would access the site periodically to perform activities such as monitoring operations, cleaning and maintaining panels, controlling vegetation, and maintaining the gravel roads.

Potential impacts on traffic and transportation as a result of construction and O&M activities would be negligible and temporary. There would be no adverse impacts on traffic and transportation from implementation of the proposed action; therefore, these resources do not warrant detailed analysis in the EA.

Noise

The ambient noise environment at NAS Meridian is dominated by aircraft operations. The closest noise-sensitive receptors to the proposed site are located in a low-density residential area approximately 2,600 feet (0.5 miles) to the south.

These receptors may experience noise generated during construction of the solar PV system. However, impacts would be short-term (estimated construction duration is approximately six to eight months). In

addition, construction would take place only during daylight hours (sunrise to sunset), when elevated sound levels would be more tolerable. The proposed access road to the site is on the north side of the site from Fuller Road; the residential area is more than one-half mile to the south of the site along Rabbit Road.

Noise associated with the operation of the solar PV system would be from the power conditioning stations (PCSs) that contain inverters and transformer units. The number of inverters would vary based on final design and would be spread throughout the site. Noise generated by the PCSs would not be noticeable at the nearest noise-sensitive receptors because of the distance between the proposed site and the residential areas. Maintenance activities associated with the solar PV system would include routine inspections and periodic washing of the solar PV arrays to remove any accumulated dust. Noise generated by these activities would be minimal. Therefore, impacts on the ambient noise environment from the proposed action would not be significant, and further analysis of the impacts of noise on the environment is not warranted.

Farmland

The Farmland Protection Policy Act (FPPA) and its implementing regulations (7 CFR 658 et seq.) require that federal agencies identify and take into account adverse effects of federal programs or projects on the preservation of farmland; consider alternative actions, as appropriate, that could lessen the adverse effects; and, to the extent practicable, ensure the effects are compatible with state, local, or private programs and policies to protect farmland. The definition of "farmland" includes land designated as prime farmland, unique farmland, and farmland of statewide importance. Because the proposed site is forested and is not considered prime, unique, or of statewide importance, the FPPA does not apply to the proposed action.

1.6 Agency Coordination and Permit Requirements

NEPA requires that federal agencies responsible for preparing NEPA analyses and documentation do so "in cooperation with State and local governments" and other agencies with jurisdiction by law or special expertise (42 U.S.C. 4331[a] and 4332[2]). The following agencies and organizations were contacted during preparation of this EA:

- U.S. Army Corps of Engineers (USACE), Mobile District
- Mississippi Department of Archives and History
- Mississippi Band of Choctaw Indians
- Jena Band of Choctaw Indians
- The Choctaw Nation of Oklahoma.

Table 1-1 provides a summary of applicable regulatory requirements and agencies. The developer will continue to coordinate with the appropriate agencies prior to and following construction.

Table 1-1 Agency Coordination and Permit Requirements

Regulation	Agency	Permit/Application	Regulated Activity
National Environmental Policy Act (42 U.S.C. 4321 et seq.)	Council on Environmental Quality (CEQ)	Categorical Exclusion, Finding of No Significant Impact, or Record of Decision	Federal actions
Clean Air Act (42 U.S.C. 7401 et seq.)	U.S. Environmental Protection Agency	Compliance with National Ambient Air Quality Standards Conformity Determination	Federal actions that result in air emissions Compliance with the General Conformity Rule
Clean Water Act (33 U.S.C. 1251 et seq.)	U.S. Army Corps of Engineers, Mobile District	Sections 404 of the Clean Water Act	Impacts on jurisdictional wetlands and/or other waters of the United States
Clean Water Act (33 U.S.C. 1251 et seq.) Section 402(b) of the Federal Water Pollution Control Act	U.S. Environmental Protection Agency Mississippi Department of Environmental Quality	Section 401 of the Clean Water Act and National Pollutant Discharge Elimination System Water Quality Certification Mississippi Water Pollution Control Law, Large Construction Stormwater General Permit	Water quality certifications; construction activities on areas equal to or larger than 1 acre Projects that impact inland and coastal waters by dredging, filling, water withdrawals, and site disturbances Stormwater discharge associated with construction activities on areas equal to or greater than 5 acres
National Historic Preservation Act of 1966 as amended (54 U.S.C. Subtitle III, Division A)	Advisory Council on Historic Preservation Mississippi Department of Archives and History, State Historic Preservation Office	Section 106 consultation	Federal undertakings that may affect properties that have been formally listed or determined eligible for listing in the National Register of Historic Places

Table 1-1 Agency Coordination and Permit Requirements

Regulation	Agency	Permit/Application	Regulated Activity
American Indian Religious Freedom Act of 1978, Archaeological Resources Protection Act of 1979, and Native American Graves Protection and Repatriation Act of 1990 (NAGPRA)	Mississippi Band of Choctaw Indians Jena Band of Choctaw Indians The Choctaw Nation of Oklahoma	Consultation with affected tribes	Presence of tribally significant cultural resources on federal land; presence of NAGPRA cultural items, sacred sites, or Traditional Cultural Properties.
Endangered Species Act (16 U.S.C. 1531-1544)	U.S. Fish and Wildlife Service	Agency consultation for presence of threatened and endangered species	Federal actions potentially impacting threatened and endangered species or resulting in the destruction or adverse modification of the critical habitat of such species
Migratory Bird Treaty Act (16 U.S.C. 703-712)	U.S. Fish and Wildlife Service	Agency consultation on migratory birds	Activities with the potential to take, capture, kill, or attempt to take a migratory bird
Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c)	U.S. Fish and Wildlife Service	Agency consultation on bald or golden eagles	Activities with the potential to take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle or any golden eagle, alive or dead, or any part, nest, or egg thereof
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. 103)	U.S. Environmental Protection Agency	Agency coordination/approval	Development on CERCLA sites undergoing remediation
Burning Permit 11 Miss. Admin. Code, Part 2, Chap 1, Rule 1.3	Mississippi Forestry Commission	Burning Permit	Open burning associated with agricultural or forestry operations

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2 Proposed Action and Alternatives

Chapter 2 provides a description of the proposed action (Section 2.1), the No Action Alternative (Section 2.2), and alternatives considered but eliminated from further consideration (Section 2.3). Section 2.4 provides a comparative summary of the environmental consequences of the proposed action and the No Action Alternative.

To achieve the goal of 1 GW of renewable energy generation capacity by 2020, the Navy recognized the need to develop opportunities for large-scale projects that would be attractive to local commercial or public utilities. The Navy used a two-step evaluation to identify potential large-scale projects. Initially, the Navy evaluated alternative renewable energy technologies commercially available that could be implemented by a power utility on Navy-owned land. Projects needed to be cost-effective and readily integrated into the existing electrical supply grid to be attractive. Alternative renewable energy technologies considered but eliminated from further consideration are discussed in Section 2.3.

Upon determining that the most viable renewable technology for a power utility to implement at most installations at this time would be a solar PV system, the Navy REPO requested installations to identify land areas within the installation that could potentially support a solar PV system. The site-selection process required the installations to consider a number of site-specific factors to identify suitable land areas for a solar PV system. The site-selection process is discussed further in Section 2.1.1.

Although the No Action Alternative does not meet the Navy's purpose and need, the inclusion of this alternative is prescribed by CEQ regulations and is carried forward for analysis in this EA (see Section 2.2).

The comparative summary in Section 2.4 considers the environmental consequences of construction and operation of the proposed solar PV facility and the No Action Alternative.

2.1 Proposed Action

The Navy proposes to lease approximately 40 acres at NAS Meridian to a third-party solar power developer that would construct and operate a solar PV system consisting of PV cells that collect energy from sunlight for the production of electricity and associated infrastructure and interconnection facilities. Up to 5 acres of existing utility ROW would be required for the approximately 1-mile interconnection line that would connect the solar array to an existing substation on base. The total project area is approximately 45 acres. The renewable energy thus created would feed into the commercial electrical energy grid that distributes power to NAS Meridian. The proposed system would have a capacity of 6 megawatts (MW) of direct current (DC) to supply electricity to the power utility's existing electrical grid.

Solar PV technology uses solar cells to convert energy from direct and diffuse solar radiation into electricity. The basic unit in a PV system is a solar cell, made up of semi-conductor material that absorbs solar radiation and converts it to an electrical current. Solar cells are contained within solar modules that are assembled into solar panels. A series of panels comprises a solar array.

The facility to be constructed would include solar PV arrays comprising panel-mounting brackets on vertical members within the project site and miscellaneous electrical equipment throughout the PV array (*i.e.*, inverters, combiner boxes, electrical switchgear, associated electrical wiring, and connections). A new access road (approximately 200 linear feet) from Fuller Road to the proposed site would be needed. A new underground interconnection line would be co-located with the access road and would connect the PV array to the existing power line along Fuller Road. It is assumed that all trees would be cleared within the 40-acre site for the array and new access road/interconnection line ROW. Approximately 1 mile of

interconnection line would be required within the existing utility ROW along Fuller Road to the existing utility company substation. No tree-clearing would occur in the existing ROW.

2.1.1 Site Selection Process

In July 2014, the REPO requested installations to identify land areas within the installation that could potentially support a solar PV system. When evaluating whether on-station land areas could be considered for development of a solar PV system, installations generally considered the following factors:

- Mission compatibility. The land area for site development would need to be compatible with the military missions and training occurring at the installation. Site development and operation of the solar PV system may not adversely impact military training.
- Topography. Land areas for development of a ground-mounted solar PV system need to be relatively flat (*i.e.*, less than 5 percent slope).
- Separation. The solar PV system would be operated by an independent power utility company. Therefore, the land area to be leased to the power utility should be able to be isolated from the operational facilities and ongoing functions of the installation.
- Future development. The land area proposed for development would be committed to the solar PV system for the terms of the lease. Therefore, future growth and the development potential of the site to support the military mission far into the future needed to be considered.
- Formerly contaminated lands and landfills. Consistent with the 2013 presidential memorandum, installations considered use of these land areas that, due to their former use, are not readily convertible to otherwise productive use.
- Protected environmental resources. Installations sought to identify land areas that were not encumbered by wetlands, protected plant or wildlife species' habitat, or known cultural resources.

Initially, the Navy identified three large parcels at NAS Meridian – the Rabbit Road Site (176 acres), the Mud Lake Site (305 acres), and the Stables Site (176 acres) – and two large parcels of NOLF Joe Williams (280 acres and 158 acres) that would satisfy these criteria. Based on further evaluation of existing site constraints, such as topography and wetlands and interconnection and regional transmission infrastructure requirements, one site was selected and evaluated in this EA. The proposed site is an approximately 40-acre portion of the original 176-acre Rabbit Road Site.

2.1.2 Lease

In support of the Secretary of the Navy's energy goals, the Navy would use real estate outgrants to ensure fair compensation for the use of Navy lands where renewable energy generation would occur. For NAS Meridian, a lease was determined to be the most appropriate real estate action to support the renewable energy goals. The lease action facilitates on-base generation of renewable energy for on- and off-base consumption via a third-party developer. Land would be leased to the developer for an estimated 37 years, which includes 2 years for construction and testing, 25 years for operation, and two 5-year options.

The lease model provides on-base generation of renewable energy for on- and off-base consumption using the commercial electrical energy grid while enabling the Navy to receive direct energy benefits with the terms of the lease. The NAS Meridian lease under which the developer would construct, operate, and maintain the solar PV system would provide on-base generation for off-base consumption. The renewable energy generated would be provided directly to the off-installation local power grid; however,

during times of electrical grid outages or during emergency situations, the power could be provided to support the installation.

In accordance with 10 U.S.C. 2667, outgrants (leases) shall provide for consideration (rent) to be paid in an amount not less than the fair market value of the leasehold interest, either in cash or in-kind. Although the proposed action addresses the known impacts of the federal lease action, details regarding the specific method of consideration to be employed, to include the design, construction, management, and maintenance of any potential in-kind consideration projects or efforts, have not been developed at this time. Therefore, these projects and the potential decommissioning of the system at lease termination may be subject to further site-specific planning, environmental planning, and engineering analysis, as necessary. Power utility companies and the third-party developers would be required to comply with all applicable federal regulations for Navy lands and assets, including the terms and conditions resulting from consultations with regulatory agencies.

2.1.3 Site Description

The proposed site is an approximately 40-acre forested parcel (Figure 2-1). The site is north of Rabbit Road, near the intersection of Clayton Corner Road and Fuller Road. The site is relatively flat and ranges from 260 to 280 feet above mean sea level (amsl). The site is dominated by loblolly pine (*Pinus taeda*) and is managed for timber production. The proposed 5-acre interconnection route follows an existing cleared utility ROW along the north side of Fuller Road. The ROW is approximately 30-feet wide.

One Installation Restoration Program (IRP) site (Site 1) is located to the southeast of the proposed site along the west side of Rabbit Road. Because it is outside the proposed project footprint and readily accessed from the road, no impacts or interference with the ongoing monitoring of this site are anticipated.

2.1.4 Solar PV Technology

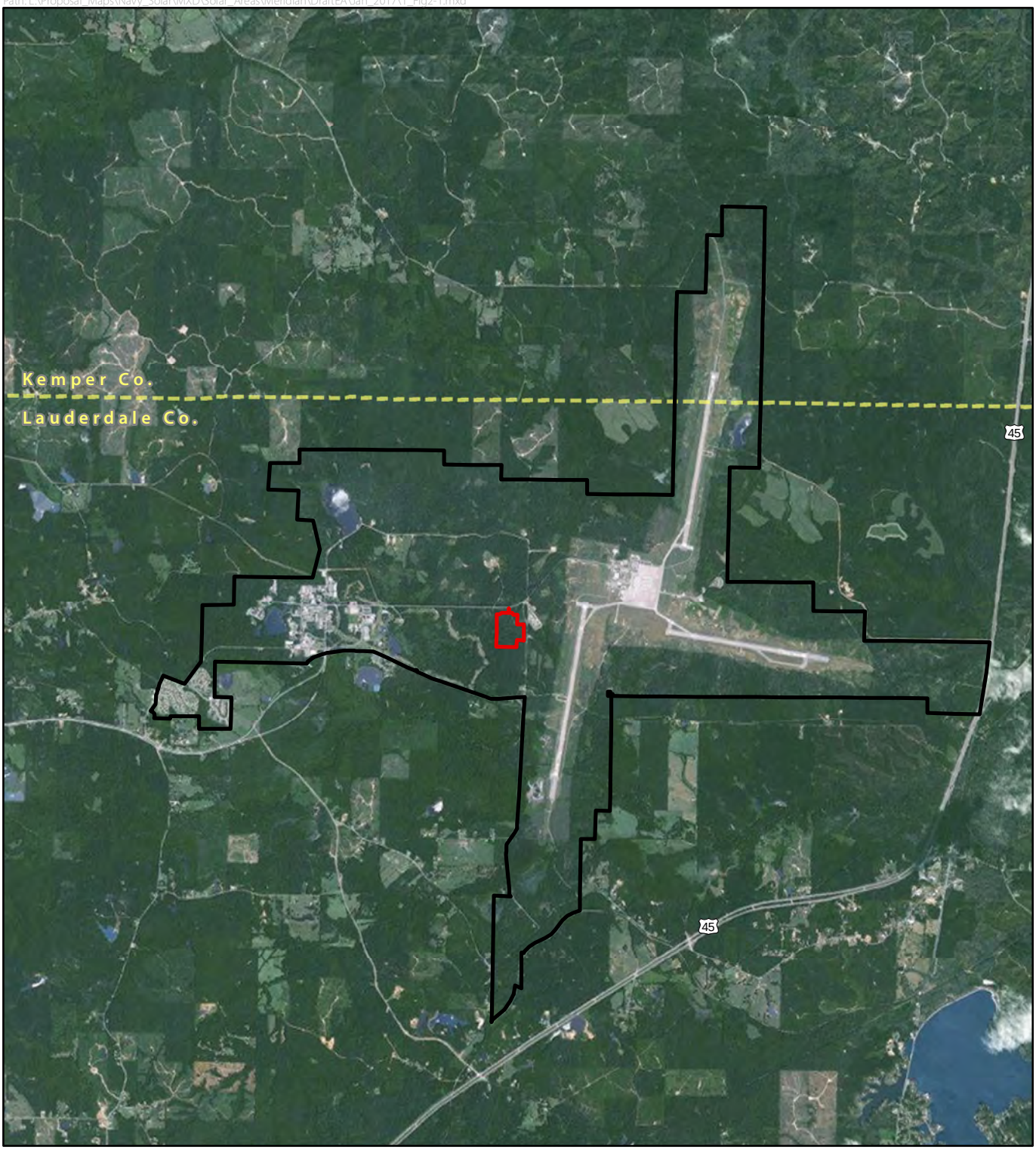
The following provides a description of the proposed ground-mounted solar PV system (Section 2.1.4.1), the project interconnection (Section 2.1.4.2), and operation and maintenance (Section 2.1.4.3) of the solar PV system.

2.1.4.1 Description and Construction of Ground-mounted Solar PV System

The conceptual site plan for the solar PV system would include multiple solar PV panels connected to a ground-mounted, fixed-tilt (stationary) system designed to optimize power production of the panels by ensuring proper orientation throughout the day and seasons (Figure 2-2). The system design includes panel-mounting brackets on vertical members within the project site and miscellaneous electrical equipment throughout the PV array (i.e., actuators, inverters, combiner boxes, electrical switchgear, associated electrical wiring, and connections) and other items required for the solar PV system.

The individual solar panels are approximately 4 feet wide and 2 feet long, are constructed of glass encasing, and are dark blue or black in color with minimal light reflection. The height of the solar array panels for a ground-mounted system would not exceed 10 feet above the ground surface. Typical configuration for this type of system is to install vertical members into the ground, either concrete pier, ground-screw, slab, or pile-driven support post, with panel-mounting hardware, frames, and/or the solar panels themselves affixed atop the constructed mounting structure (Figure 2-5). Foundations would be built on engineered fill or native soil at a minimum of 24 inches below adjacent grade or finished grade (typical for combined footings), subject to final engineering design. If pole footings are to be used, each footing would consist of a 4-inch cross-sectional area and would require a depth of approximately 6 feet to 12 feet below ground surface, subject to final engineering design.

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Legend

Military Installation Boundary

Project/Clearance Area

Figure 2-1

Proposed Solar PV Facility Site Location

Lauderdale County, Mississippi

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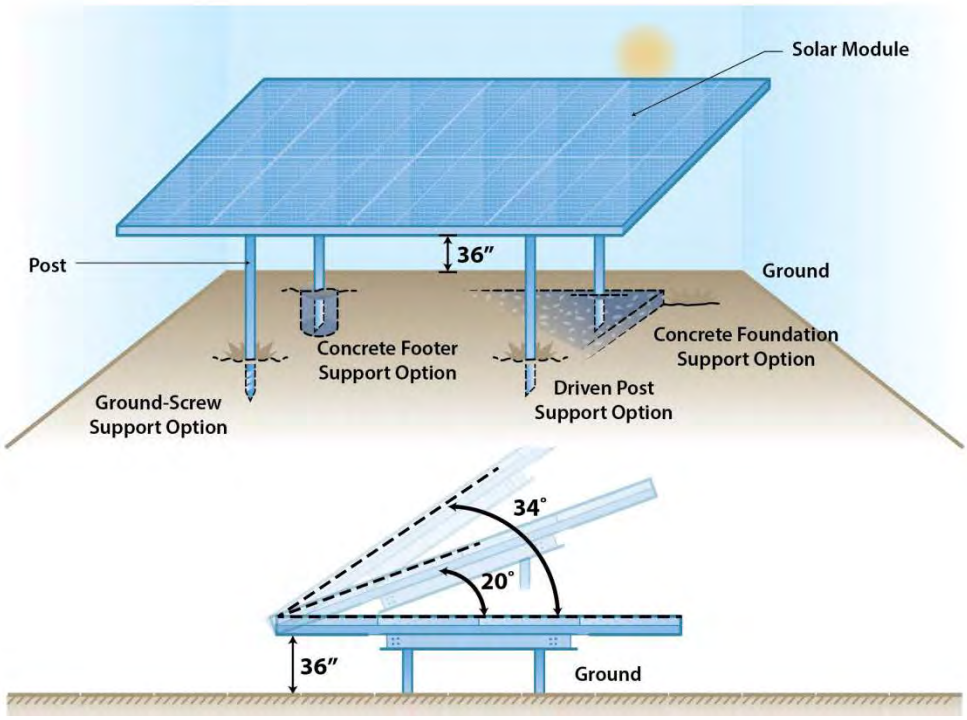


Figure 2-3 Typical Ground-mounted Solar Array



Examples of Fixed-tilt and Single-axle Tracking, Ground-mounted Solar PV Arrays

Construction materials would be transported by truck to the project site, where they would be staged, assembled, and moved into place. Temporary construction laydown areas for materials, equipment, and parking may be required just outside the project site. Construction duration (from initial site grading and staging of equipment and panels to completed solar array) would be approximately six to eight months. At the onset of construction, the project boundaries or limits of disturbance would be clearly surveyed and staked to indicate where site preparation activities would occur.

In areas with surface vegetation, ground-mounted solar PV systems would require the site to be cleared, grubbed, and graded. Trees would be harvested, and the remaining debris would either be burned on-site or hauled off-site for disposal. Soil in applicable areas of the project site would be compacted as necessary for the project components previously discussed. During soil compaction water may need to be

trucked on-site, or the site may have to be dewatered, depending on the hydrologic regime on-site and final engineering design.

During site preparation and all construction and restoration activities, the project would employ erosion and sedimentation control measures that would be outlined in the project-specific stormwater pollution prevention plan (SWPPP). The SWPPP will comply with applicable state National Pollutant Discharge Elimination System (NPDES) construction stormwater regulations and the Mississippi Department of Environmental Quality's Large Construction Stormwater General Permit. Soil tackifiers may be added to the site in arid locations to deter alluvial erosion of the site. Once construction of the project is completed, the site would be seeded with an herbaceous groundcover to minimize soil erosion.

To restrict access, the project area containing all facilities associated with the ground-mounted array would be contained within a 10-foot-high chain-link perimeter fence that would include three strands of barbed wire atop the fence, in compliance with the National Electric Safety Code, in order to restrict access. The ground-mounted array system would occupy the majority of the space contained within its fenceline. Other ancillary facilities within the fenceline may include gravel access roads for operation and maintenance or an operations building. Access road-width may vary based upon final design but typically would be 12 feet. The operations building would be designed and sized based on what is appropriate for the project. The operations building is used to house the solar PV system operator and to provide storage for maintenance equipment and a supervisory control and data acquisition system that allows the operator to monitor the system. The access road for the site would be constructed per final design but likely would consist of a gravel or similar base that would be trucked on to the site.

Visual barriers could be used to screen the solar PV system. Visual barriers could consist of existing or installed features (*e.g.*, buildings, berms, natural ridges, vegetation, fences, or walls).

2.1.4.2 Substation and Interconnection

The project includes an approximately 1-mile-long 12 kilovolt (kV) interconnection line from the proposed site to the existing utility company substation. This interconnection line would be trenched and buried within the existing utility ROW along Fuller Road. Approximately 200 feet of new ROW would be required to connect the proposed array to the existing ROW along Fuller Road. This new ROW would be trenched and buried and would follow the proposed access road from the project site to Fuller Road.

2.1.4.3 Operation and Maintenance

Occasional maintenance may be required for the solar PV arrays, including washing and replacing panels. Water use for O&M could include washing the solar panels when necessary; however, minimal to no water use would be expected for the project, either during construction or for O&M washing throughout the life of the system because the amount of expected rainfall in the region is adequate to keep the panels clean.

Grass, groundcover, and other vegetation beneath and near the panels would be trimmed periodically and could be additionally controlled with herbicides to ensure that vegetation does not obscure or shadow the panels. Herbicide type and application method would be approved by the installation and/or NAVFAC Southeast (SE) prior to use. The access road and the interconnection line ROW would be maintained by the utility provider as needed.

2.2 No Action Alternative

In compliance with NEPA and CEQ regulations, the No Action Alternative must be considered and associated potential impacts evaluated. Under the No Action Alternative, no solar PV system would be installed at NAS Meridian. Thus, various federal statutes and EOs that mandate changes in energy

consumption and production would not be addressed, and the No Action Alternative would not increase renewable energy production or use. The No Action Alternative would not meet the renewable energy objectives of the Navy, nor would it meet the goals, purpose, and need for the proposed action, as described in Sections 1.2 and 1.3.

Although the No Action Alternative does not meet the Navy's purpose and need, the inclusion of this alternative is prescribed by CEQ regulations and is carried forward for analysis in this EA. The No Action Alternative also serves as a baseline against which the impacts of the proposed action can be evaluated.

2.3 Alternatives Considered But Eliminated

In 2007, under the direction of the Naval Facilities Engineering Services Center, the Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) began a study of renewable energy strategic opportunities at 70 Navy installations (NREL 2012). The study investigated six renewable energy technologies, including solar PV, concentrating solar power (CSP), solar hot water (SHW), solar ventilation pre-heating (SVP), wind, and biomass. The NREL identified where these technologies could best be used, based on 2010 energy and technology cost assumptions, technological maturity, maps of renewable resources, capital costs, O&M costs, land area required, and project life expectancy. Payback estimates, with and without incentives, were estimated for each viable technology. The NREL continues to work with Navy installations to evaluate and deploy renewable-energy demonstration projects and projects to promote energy efficiency. With the 1 GW Initiative established in 2012, the Navy took a more aggressive approach to implement cost-effective and mission-compatible projects at its shore facilities. To achieve 1 GW of renewable energy generation capacity by 2020, the Navy recognized the need to develop opportunities for large-scale projects that would be attractive to local commercial utilities. The Navy established the REPO specifically to work with local commercial utilities to use private-sector funds to construct renewable energy facilities on Navy land.

As discussed in the introduction to this chapter, projects need to be cost-effective and readily integrated into the existing electrical supply grid to be attractive to local commercial utilities. Commercial utilities would receive revenue from the sale of the electricity and would retain control and ownership of the Renewable Energy Certificates (RECs) associated with the project. RECs represent the environmental, social, and other non-power benefits of renewable electricity generation, and they can be sold separately from the physical generating systems (U.S. Environmental Protection Agency [EPA] 2015b).

In evaluating the various renewable energy technologies, the REPO considered the following key criteria:

- Projects need to be implemented using a mature, reliable technology.
- Technology used should be cost-effective to implement.
- Projects should be implementable to meet the timelines established to meet the renewable energy standards set forth by the Secretary of the Navy as well as other federal directives and executive orders.

2.3.1 Solar

Solar energy electricity-generating technologies are divided into two broad categories: 1) PV, which directly converts sunlight to electricity, and 2) CSP, which generates heat to drive a steam turbine.
In addition to a ground-mounted solar PV array, the Navy considered rooftop- and carport-mounted solar PV applications and CSP technology.

Rooftop and Carport-mounted Solar PV

The most common carport structure is a full cantilever tee type, which is a single-post structure with cantilevered beams up to 20 feet long. Like ground-mounted solar arrays, the tilt of carport-mounted solar arrays is fixed in the optimum orientation to the sun throughout the day and seasons. Rooftop-mounted solar arrays are most often retrofitted onto an existing building using mounting brackets joined to the roof. Many rooftop solar PV array systems are small- or medium-sized systems, rather than utility-scale systems, with the renewable power generated being consumed in the building that hosts the arrays.

Ground-mounted solar arrays were found to be preferable to the rooftop-mounted or the carport-mounted technologies because of the available land area and the lack of rooftop or carport space with the angle and orientation needed to make rooftop-mounted or carport-mounted technologies cost-effective to support a utility-scale project. Thus, rooftop-mounted and carport-mounted solar technologies were eliminated from consideration for this proposed action.

Concentrating Solar Power

CSP technologies use heat from solar energy to generate electricity. Multiple CSP technologies have been developed; all are based on the concept of concentrating direct solar radiation to heat a fluid to very high temperatures, which is then used to generate electricity via a conventional turbine. These technologies include linear concentrators, solar towers, and dish/engines. Parabolic trough CSP collectors capture the sun's energy with large mirrors that reflect and focus the sunlight onto a linear receiver tube. The receiver contains a fluid that is heated by the sunlight and then used to create superheated steam that spins a turbine that drives a generator to produce electricity. In power tower systems, numerous large, flat, sun-tracking mirrors, known as *heliostats,* focus sunlight onto a receiver at the top of a tall tower. A heat-transfer fluid heated in the receiver is used to generate steam which, in turn, is used in a conventional turbine generator to produce electricity. The solar concentrator dish, which looks like a satellite dish, gathers the solar energy coming directly from the sun. The resulting beam of concentrated sunlight is reflected onto a thermal receiver that absorbs the concentrated beams of solar energy, converts them to heat, and transfers the heat to the engine/generator. The engine/generator system is the subsystem that takes the heat from the thermal receiver and uses it to produce electricity.

CSP systems range in height from approximately 30 feet for the linear concentrators, 20 to 30 feet for the heliostats, and 180 to 700 feet for the solar towers.

CSP technologies have been in operation since the early 1980s. In 2014, more than 1,400 MW were produced by CSP plants operating in the U.S., with an additional 390 MW currently in development that will begin operating in 2015 (Solar Energy Industries Association 2014). Although the technology is mature, the number of CSP systems in operation has not increased at the same pace as solar PV systems. While the DOD has 511 solar PV systems in operation on DOD lands, no CSP systems have been implemented (DOD 2014). The acreage requirements for CSP technologies vary greatly due to the limited number of case studies of their application but can range between 5 and 8 acres per MW. However, CSP technologies are most cost-effective at a scale of 50 to 100 MW, which would require land areas of 300 to 400 acres for a 50 MW system and 600 to 700 acres for a 100 MW system (NREL 2012). In addition, CSP technologies require large volumes of water— from 1.1 million to 180 million gallons of water per year for a 100 MW CSP plant (NREL 2012).

Although CSP technologies may be viable in certain locations and could be considered at Navy installations, particularly in the southwest where large land areas are available, the Navy determined that the Navy and/or local commercial utility would need to conduct extensive studies to implement a CSP system project, given the large land requirements, water demands, and potential operational impacts (*i.e.*, the solar towers). Therefore, a CSP project would not be viable in the expedited timeframe.

2.3.2 Wind Power

Wind energy is the transformation of wind into mechanical power through a turbine, which is then converted into electricity through a generator. Turbines can range in size from small, residential units with capacities under 100 kilowatts (kW) to large-scale 2 MW to 3 MW turbines used in commercial wind farms. In 2014, the U.S. wind energy capacity was 62,300 MW, with an additional 13,600 MW of wind energy capacity under construction (American Wind Energy Association 2014). The technology is a mature technology, and its use is growing.

Wind turbines generally are sited in wide-open spaces. A standard wind farm of 20 turbines (1 MW to 3 MW each) can extend over an area larger than 247,000 acres. However, only 1 percent of the land is used for the turbines, electrical infrastructure, and access roads. The remainder of the land can be used for farming or natural habitat (Wind Measurement International 2014). While considering wind direction, turbine sizing, and setback requirements, a smaller number of turbines could be configured on less land.

Small wind-turbine technology is still emerging and applications would be too small to meet the capacity of a utility-sized project such as this proposed action. In some cases, large turbine-wind generation can pose challenges to the missions of many Navy installations because of the height of the towers and the effects they can produce on various types of radars and aircraft operations. Tower heights typically range from 190 to 260 feet (NREL 2012).

As of 2013, the DOD operated 27 wind energy projects, which represented only 1 percent of renewable energy production throughout the DOD (DOD 2014). Although wind turbines may be viable in certain locations and could be considered at Navy installations, the Navy determined that the Navy and/or local commercial utility would need to conduct extensive studies to implement a wind energy project, and such a project would not be viable in the expedited timeframe. The NREL recommends that at least one year of wind resource data would be required for a developer to obtain project financing, as the cost-effectiveness of a project is directly related to location and size (NREL 2012). Research is occurring into the technology that would operate in areas of lower wind resources; however, this technology is still emerging (NREL 2012).

2.3.3 Geothermal Energy

Geothermal power is energy generated by heat stored beneath the Earth's surface or the collection of absorbed heat in the atmosphere and oceans. This heat can be used directly to heat facilities or to drive steam turbines to generate electricity. As a base-load source of energy, geothermal is distinct from other renewable energy sources, such as wind and solar, because it can provide consistent electricity without being part of a broader system. In 2013, the U.S. had 3,442 MW of installed geothermal electricity capacity, with more than 1,000 MW capacity in development (Geothermal Energy Association 2014).

Geothermal energy can be harnessed through direct use, electrical generation, or heat pumps. Direct-use applications include heating buildings, growing plants in greenhouses, drying crops, heating water at fish farms, and several industrial processes such as pasteurizing milk. Electricity generation occurs when steam from underground wells rotates a turbine, which activates a generator to produce electricity. Geothermal heat pumps are able to heat, cool, and, if so equipped, supply homes and buildings with hot water. A geothermal heat pump system consists of a heat pump, an air delivery system (ductwork), and a heat exchanger—a system of pipes buried in shallow ground. In the winter, the heat pump removes heat from the heat exchanger and pumps it into the indoor air delivery system. In the summer, the process is reversed, and the heat pump moves heat from the indoor air into the heat exchanger. The heat removed from the indoor air during the summer can be used to provide a free source of hot water.

Where heat sources exist, geothermal is an excellent source of energy for Navy installations, though exploration can be difficult and expensive. The Navy's Geothermal Program Office at China Lake, California, is actively exploring for resources in the southwest. At present, some of the potential sources of geothermal energy for the Navy are located on Department of the Interior/Bureau of Land Management land withdrawn by legislation for military use, and future development will have to be carefully coordinated. However, the exploration and production costs of geothermal wells are increased in the absence of proven resources.

The largest renewable energy project across the DOD is the Navy's China Lake geothermal power plant in California, which supplies nearly half of the DOD's renewable energy production. Throughout the DOD, 155 ground source heat pump (GSHP) projects are contributing approximately 4 percent to the supply mix (DOD 2014).

Although geothermal energy may be viable in certain locations and could be considered at Navy installations, the Navy determined that such a project would not be viable at NAS Meridian. Locating a viable geothermal resource under NAS Meridian is exceedingly unlikely due to the local geology and thermal gradients in this area.

2.3.4 Biomass Energy

Biomass electricity is generated by burning waste materials, such as wood or agricultural residue, for use as fuel in the cogeneration of heat and electricity in stream-driven generators. The use of landfill methane to drive electricity generation or waste-to-energy systems is also considered a viable source of biomass energy and is in widespread use throughout the U.S.

In some parts of the country, various types of biomass sources may be very competitive with traditional fossil or "brown" power. As with geothermal energy, biomass has the advantage of providing base-load power, enhancing an installation's energy security on a continuous basis. Power projects could use various sources of biomass or other waste streams, including leftover plant material (from farming, logging, etc.), animal waste, landfill gas capture, wastewater treatment methane generation, or municipal solid waste. One challenge for biomass projects is securing a long-term contract for a low-cost and locally available fuel source.

Land requirements for biomass systems range from 1 to 2 acres per MW (NREL 2012), although available space is not the defining issue for these projects. Availability of feed stock, requirements for emissions control and waste disposal represent the biggest challenges for biomass projects. In addition, the best use of biomass energy is in the cogeneration of electricity and heat, which requires nearby building applications (NREL 2012).

The second largest renewable energy project in the DOD is a waste-to-energy generation project at the Norfolk Naval Shipyard in Virginia that produces both electricity and steam energy. Nation-wide, biomass and biogas from captured methane account for up to 6 percent of the DOD's annual renewable energy (DOD 2014).

Although biomass energy may be viable in certain locations and could be considered at Navy installations, the Navy determined that the Navy and/or local commercial utility would need to conduct extensive studies to implement a project. To construct and operate a biomass system, a steady source of fuel would have to be identified to determine the cost-effectiveness of the project, and such a project could not be viably expedited in the given timeframe.

2.3.5 Review of Renewable Energy Technologies

Solar PV technology was chosen to meet the purpose and need of this proposed action because it is a very mature technology and is compatible with the missions of most installations. It also is readily available and cost-effective as a result of the recent expansion and efficiency of solar PV as a technology and a market. In 2013, new solar electricity generation provided 29 percent of the total U.S new electricity capacity, second only to natural gas installation (Energy Information Administration [EIA] 2014). New solar power capacity increased 41 percent from 2012 while the average price decreased 15 percent at the same time (GTM Research 2014). These trends support the availability of the technology for the large-scale projects planned by the Navy.

2.4 Comparison of Environmental Consequences

Table 2-2 presents a summary of the environmental consequences associated with construction and operation of a solar PV system.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Land Use	• No direct impact on adjacent land uses. • Existing on-base land use would change from managed forestland to a utility use. • Action would be consistent with future land use plans at NAS Meridian and would not conflict with existing or future Navy operations.	• No change in current land use classifications.
Utilities and Infrastructure	**Electrical System** • Increase in renewable electrical energy supplied to local energy grid. • New renewable electricity would contribute to Navy and national renewable energy goals.	**Electrical System** • No contribution to Navy renewable energy goals. • No change to existing electrical infrastructure.
	Stormwater Management • Minor increases in impervious surface and minimal ground disturbance. • Developer would be required to obtain NPDES permit for Stormwater Discharges Associated with Construction Activity. • Implementation of SWPPP; Erosion, Sedimentation, and Pollution Control Plan and BMPs would minimize impacts.	**Stormwater** • No change to stormwater management practices.
Socioeconomics and Environmental Justice	**Socioeconomics** • Short-term positive economic impact from construction expenditures and jobs. • Minor long-term, positive economic impact from operations (expenditures and jobs).	**Socioeconomics** • No change to existing conditions.
	Environmental Justice and Protection of Children • Environmental justice communities are present in the study area. However, they would not experience a disproportionately high or adverse human health or environmental effect because no significant impacts would be expected to occur in the surrounding communities. • No potential environmental or safety risks for children would occur.	**Environmental Justice and Protection of Children** • No change in effects on environmental justice communities.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Cultural Resources	**Architectural Resources** • No effect on architectural resources that are historic properties because none are present within the APE (*i.e.*, the footprint or viewshed of the proposed solar PV facility site).	**Architectural Resources** • No change from existing conditions. • No effects to historic properties.
	Archaeological Resources • No effect on archaeological resources because the one archaeological site identified during project planning, historic site 22LD679, is outside the APE at the proposed site.	**Archaeological Resources** • No changes in archaeological resources. • No effects to historic properties.
	Native American Resources • No Native American resources have been identified within the proposed site to date; two historic Choctaw sites (22LD563 and 22LD564) are located outside the APE within the larger 176-acre Rabbit Road Site. The Navy consulted with three federally recognized tribes with an interest in NAS Meridian property—the Mississippi Band of Choctaw Indians, the Choctaw Nation of Oklahoma, and the Jena Band of Choctaw Indians—on the effects of the proposed action at NAS Meridian in compliance with the Section 106 process.	**Native American Resources** • No changes in Native American resources.
Air Quality	**Criteria Air Pollutants** • Temporary, negligible, direct impacts on air quality from generation of air emissions during construction would occur. • BMPs would be used to further reduce emissions and impacts. • Minor, beneficial, indirect impact on air quality from reduction in regional criteria pollutant emissions due to the decrease in fossil fuel-derived electricity on the commercial grid and increase in renewable energy electricity.	**Criteria Air Pollutants** • No change in criteria air pollutants.
	GHG Emissions and Climate Change • Negligible direct impact on GHG emissions in the region from construction and operation. • Indirect beneficial impact on GHG emissions in the region from the decrease in fossil fuel-derived electricity on the commercial grid and increase in renewable energy electricity. • Project would address climate change by supporting Navy's renewable energy goals.	**GHG Emissions and Climate Change** • No change in GHG emissions.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Biological Resources	**Vegetation** • Moderate long-term impacts from the removal or conversion of approximately 38.2 acres of the vegetative cover at the proposed site and access road.	**Vegetation** • No changes in vegetation.
	Wildlife • Potential for minor, temporary behavioral impacts on wildlife during construction and operation. • BMPs and protective measures would minimize impacts.	**Wildlife** • No changes in wildlife species and migratory birds.
	Threatened and Endangered Species • No threatened and endangered (T&E) species are known to occur in the area, and therefore there would be no impacts on federally or state-listed species.	**Threatened and Endangered Species** • No changes in federally listed threatened and endangered species. • No changes in state-listed species.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Water Resources	**Surface Water and Water Quality** • Potential for minor impacts on water quality from erosion and sedimentation. • Potential for direct and indirect impacts within the proposed interconnection ROW as a result of burying the interconnection line. • Temporary, minor impacts during operation and maintenance from solar panel washwater runoff and an increased area of impervious surface. • Developer would be required to obtain an NPDES permit for Stormwater Discharges Associated with Construction Activity. • Implementation of SWPPP; Erosion, Sedimentation, and Pollution Control Plan and BMPs would minimize impacts.	**Surface Water and Water Quality** • No changes in surface water or water quality.
	Wetlands • Minor impacts from tree clearing within delineated wetlands. Trees would be cut and left in place or cut and pulled out, minimizing ground disturbance. • Potential for minor impacts on water quality from erosion and sedimentation. • Potential for indirect impacts within the proposed interconnection ROW. • Indirect impacts, similar to those described for surface waters, could temporarily result from construction and O&M. • No changes to hydrology would be anticipated. • BMPs would reduce or eliminate potential impacts.	**Wetlands** • No changes in wetlands.
	Groundwater • Potential for minor impacts on groundwater from erosion and sedimentation. • Minor indirect impacts on water quality from erosion, sedimentation, and potential spills during construction. • BMPs would reduce or eliminate potential impacts.	**Groundwater** • No changes in groundwater.
	Floodplains • Potential for direct and indirect impacts within the proposed interconnection ROW.	**Floodplains** • No changes in floodplains.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Hazardous Materials and Waste	**Environmental Restoration Program** • By following Resource Conservation and Recovery Act (RCRA) requirements, there would be no significant impact on human and environmental health and safety to the Environmental Restoration Program (ERP).	**Environmental Restoration Program** • No changes to the ongoing ER program.
	Hazardous Materials and Waste • Minor impacts on human and environmental health and safety related to the handling and disposition of hazardous materials and wastes during construction (oils, paints, fuel) and operation (pesticide usage). • Adherence to installation Hazardous Waste Management Program (HWMP), the Hazardous Waste (HW) and Non-hazardous Waste (NHW) Management Guide, and other applicable installation management plans would reduce or eliminate impacts.	**Hazardous Materials and Waste** • No changes in hazardous materials use or hazardous waste generation and management.
Topography and Soils	**Topography** • Minor impact from excavation, grading, and earthmoving during construction.	**Topography** • No changes in topography.
	Soils • Minor impacts on soils from compaction and excavation during construction and open burning of debris. • Developer would be required to obtain NPDES permit for Stormwater Discharges Associated with Construction Activity. • Implementation of SWPPP; Erosion, Sedimentation, and Pollution Control Plan and BMPs would minimize impacts.	**Soils** • No changes in soils.

Table 2-2 Comparison of Environmental Consequences

Resource	Solar PV Project	No Action Alternative
Public Safety	**Glint and Glare** • No impact on public or aviation safety.	**Glint and Glare** • No change in public safety as a result of glint and glare.
	Electromagnetic Fields • Negligible impact on public safety associated with EMFs from solar PV system and electrical lines.	**Electromagnetic Fields** • No change in public safety as a result of EMFs.

Key:

APE	=	Area of potential effects
BMP	=	Best management practice
CERCLA	=	Comprehensive Environmental Response, Compensation, and Liability Act
EMFs	=	Electromagnetic fields
ERP	=	Environmental Restoration Program
GHG	=	Greenhouse gas
HW	=	Hazardous Waste
HWMP	=	Hazardous Waste Management Plan
NEPA	=	National Environmental Policy Act
NHPA	=	National Historic Preservation Act of 1966
NHW	=	Non-hazardous Waste
NRHP	=	National Register of Historic Places
PV	=	Photovoltaic
SWPPP	=	Stormwater Pollution Prevention Plan

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3 Existing Environment

3.1 Introduction

This chapter provides a description of the existing environmental resources that have the potential to be affected by the lease and associated construction and operation of a solar PV system at NAS Meridian. Data used to describe the existing environment are from government agency websites or publically available documents, published literature, personal contacts, and other references, as cited herein. To the extent feasible, data presented are current as of 2017. An analysis of the potential impacts on the resources described in this chapter is presented in Chapter 4.

3.2 Land Use

3.2.1 On-site Land Use

NAS Meridian is located 15 miles northeast of downtown Meridian, Mississippi, and 10 miles west of the Mississippi-Alabama state line. Situated in the North Central Hills region of the state, the main base of NAS Meridian occupies 8,061 acres.

Approximately 52 percent of the land area at NAS Meridian is managed forestland. Three main developed areas are the Administrative Area, the Operations Area (including McCain Field, and associated operational facilities), and the Housing Area. The Administrative Area includes administrative and commercial services, and recreational and training functions of the base (Woolpert 2010; SEARCH [Southeastern Archaeological Research] 2013).

The 40-acre proposed site is located north of Rabbit Road, west of Clayton Corner Road, and south of Fuller Road. The Ponta Creek Golf Course is located west of the site, and McCain Field is located to the east, although not adjacent. The airfield contains two 8,000-foot runways, oriented north-south, and a 6,400-foot-long crosswinds runway, oriented east-west (NAS Meridian 2010). The site is currently undeveloped, and land use is primarily managed forestland. The proposed 5-acre interconnection route follows an existing cleared utility ROW along Fuller Road.

IRP Site 1 is located to the southeast of the site along the west side of Rabbit Road. Because it is situated outside the proposed site with direct access from the road, there would be no disturbance or interference with the site monitoring efforts or land use controls.

3.2.2 Adjacent Land Use

NAS Meridian is located in an unincorporated area of Lauderdale County with a small portion extending north into Kemper County. Land surrounding NAS Meridian is primarily managed forestland and agricultural, with scattered rural residential areas.

Lauderdale County does not have a land use plan for the unincorporated portions of the county, nor are lands subject to any zoning ordinances. However, Lauderdale County adopted an Air Installations Compatible Use Zones (AICUZ) ordinance in 1992 to promote compatible development around NAS Meridian (NAVFAC SE 2012). The AICUZ ordinance and lack of public sewer lines in the unincorporated areas around NAS Meridian have restricted more intensive development (Woolpert 2010).

Adjacent on-base land use surrounding the site is primarily managed forestland. The Ponta Creek Golf Course, the existing substation, the sewage treatment plant, the horse stables and riding area, and McCain Field are the surrounding on-base land uses.

3.3 Utilities and Infrastructure

This section discusses the electrical distribution system and stormwater management infrastructure for NAS Meridian.

3.3.1 Electrical System

East Mississippi Electric Power Association (EMEPA), a not-for-profit electric cooperative that purchases power generated by the Tennessee Valley Authority (TVA), provides electricity to NAS Meridian. EMEPA owns, manages, and maintains the distribution system, except for the facilities located at the airfield. The distribution system is looped and comprises approximately 114,000 linear feet of overhead lines and 66,000 linear feet of underground lines in vaults and/or direct-buried. In addition, there are two substations, one located at the airfield and the other located just east of Building 367 south of Fuller Road (Woolpert 2010).

In FY 2012, the NAS Meridian complex consumed 35,958 megawatt-hours (MWh) of grid-supplied electricity (NREL 2014a). The base is located in the Southeastern Energy Reliability Council (SERC) Tennessee Valley eGRID subregion (EPA 2017a).

In 2013, the TVA supplied more than 15.5 million MWh in their territory in Mississippi, which encompasses the northeast corner of the state (TVA 2014). TVA operates fossil fuel, nuclear, hydro, and renewable energy generation facilities throughout its region. Approximately 57 percent of TVA's generation in FY 2011— 81.4 billion kilowatt-hours (kWh) of electricity—was from coal and natural gas-fired plants (TVA 2015).

3.3.2 Stormwater Management

Stormwater management in the state of Mississippi is managed by the Mississippi Department of Environmental Quality (MDEQ). A Large Construction Stormwater General Permit is required for all projects that disturb 5 acres or more. Stormwater at NAS Meridian is channeled through a variety of gravity-fed piped systems, ditches, and concrete-lined channels (NAS Meridian 2013).

No stormwater-related infrastructure is on the proposed site. During the wetlands surveys at NAS Meridian in February 2015, one drainageway was observed. However, this feature appeared to be related to former irrigation or drainage ditches that were created during earlier farming or land use activities (see Section 3.8 for additional details on this survey).

3.4 Socioeconomics and Environmental Justice

This section provides a discussion of the socioeconomic conditions in the communities surrounding the proposed site. For the purposes of projecting economic impacts, the impact area is defined as the two communities in which the proposed project is located—Kemper and Lauderdale counties. The following subsections also discuss the state of Mississippi as a point of comparison.

3.4.1 Socioeconomics

In 2012, an estimated 10,391 residents were living in Kemper County, and an estimated 80,204 residents were living in Lauderdale County. Estimated 2012 population levels in the two counties have remained relatively constant since the 2000 and 2010 census. The total population in Kemper County decreased slightly since the 2000 census of 10,453 residents. Lauderdale County had a slight population increase of approximately 3 percent over the 2000 census of 78,161 residents (see Table 3.4-1).

Table 3.4-1 Total Population in the Project Area (2000 to 2012)

	2000 (actual)	2010 (actual)	2012 (estimated)	Percent Change 2000 to 2010	Percent Change 2010 to 2012
Kemper County	10,453	10,456	10,391	<0.1	-0.6
Lauderdale County	78,161	80,261	80,204	2.7	-0.1
State of Mississippi	2,844,658	2,967,297	2,967,620	4.3	< 0.1

Source: U.S. Bureau of the Census 2002, 2012a, 2012b, n.d.[a]

The regional economy is influenced by the DOD's presence in Kemper and Lauderdale counties: NAS Meridian is one of the larger employers in the region (East Mississippi Business Development Corporation 2015). Other large employers in the two counties include the Kemper Integrated Gasification Combined Cycle power plant; local hospitals and school districts, including Anderson Hospital and Lauderdale County Schools; and Peavey Electronics, which manufactures amplifiers, guitars, and sound equipment (Mississippi Power 2015; East Mississippi Business Development Corporation 2015). In 2012, the largest employment sector in the two counties comprised the educational services and health care and social assistance sector, which employed approximately 23.7 percent of the employed civilian work force in Kemper County and 29.6 percent of the employed civilian work force in Lauderdale County. Other large employment sectors in Kemper County were retail trade (11.8 percent), manufacturing (10.7 percent), and construction industry (10.3 percent) sectors. Similarly, other large employment sectors in Lauderdale County were the retail trade (12.4 percent), manufacturing (9.1 percent), and arts, entertainment, and recreation, and accommodation and food services (7.6 percent) sectors (U.S. Bureau of the Census n.d.[b]).

The two counties and the state of Mississippi as a whole had relatively high unemployment rates in 2012. As shown on Table 3.4-2, the 2012 average annual unemployment rate in Kemper County was 12.6 percent, while the average annual unemployment rate in Lauderdale County was 9.4 percent. During the same time period, Mississippi as a whole had an unemployment rate of 9.2 percent. These rates were both higher than the national rate of 8.1 percent for the same time period (Table 3.4-2).

Table 3.4-2 Selected 2012 Economic Statistics for the Project Area

	Total Labor Force 2012	Unemployment Rate 2012	Per Capita Income 2012	Median Household Income 2012	% of Persons Below Poverty Level 2012
Kemper County	4,260	12.6%	$14,466	$27,471	28.0%
Lauderdale County	34,401	9.4%	$21,262	$36,814	23.4%
State of Mississippi	1,312,854	9.2%	$20,670	$54,176	22.3%

Sources: U.S. Bureau of Labor Statistics 2014a,b; U.S. Bureau of the Census n.d.[b].

On average, residents of the two communities are less affluent than the average resident in the state of Mississippi. In 2012, total per capita income was $14,466 in Kemper County and $21,262 in Lauderdale County. By comparison, the statewide total per capita income was $20,670. However, median household income in the two counties was substantially lower than the statewide median household income. In 2012, median household income was estimated to be $27,471 in Kemper County and $36,814 in Lauderdale County. These figures were significantly lower than the statewide median household income of $54,176 (Table 3.4-2).

Corresponding to the low median household income levels, the two counties also had a larger percentage of residents living below the poverty level, as defined by the U.S. Census Bureau, than the state as a whole. In 2012, approximately 28.0 percent of the total population in Kemper County had income levels

that placed them below the national poverty level. During the same time period, an estimated 23.4 percent of Lauderdale County residents had incomes that placed them below the national poverty level. In contrast, approximately 22.3 percent of all residents in the state of Mississippi had incomes below the national poverty level (Table 3.4-2).

3.4.2 Environmental Justice and Protection of Children

Consistent with EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (February 11, 1994), the Navy's policy is to identify and address any disproportionately high and adverse human health or environmental effects of its actions on minority and low-income populations. In addition, consistent with EO 13045, Environmental Health Risks and Safety Risks to Children (April 21, 1997), the Navy's policy is to make it a "high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children and ensure . . . that its policies, programs, activities, and standards address disproportionate risks to children." EO 13045 was issued because a growing body of scientific knowledge demonstrates that children may suffer disproportionately from environmental health risks and safety risks.

3.5 Cultural Resources

Cultural resources that may be affected by the proposed action include architectural resources (buildings and structures) and archaeological resources (pre-historic and historic archaeological sites or archaeologically sensitive areas). Cultural resources also may include Native American resources associated with federally recognized Indian tribes with an interest in property on which NAS Meridian is located. These cultural resources are associated with the installation's pre-history and history, which have been documented through various cultural resources investigations, as summarized in the Integrated Cultural Resources Management Plan (ICRMP) for the base (SEARCH 2013).

Compliance with Section 106 of the National Historic Preservation Act

Because the proposed action is considered a federal undertaking, the Navy must comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, and its implementing regulations (36 CFR 800). Section 106 requires that federal agencies, such as the Navy, consider the effects of their undertakings, such as the proposed action, on historic properties (*e.g.,* cultural resources that have been included in or determined eligible for inclusion in the National Register of Historic Places [NRHP]).

The Navy has assessed the significance of cultural resources in accordance with National Register criteria to determine the NRHP-eligibility of each identified resource. Cultural resources are considered to be NRHP-eligible, and thus historic properties, if they display the quality of significance in one or more of the following areas: American history, architecture, archaeology, engineering, and culture. They also have to possess integrity of location, design, setting, materials, workmanship, feeling, and association; they also must meet one of the following four National Register criteria:

- **Criterion A** – properties that are associated with the events that have made a significant contribution to the broad patterns of American history; or
- **Criterion B** – properties that are associated with the lives of persons significant in our past; or
- **Criterion C** – properties that embody the distinctive characteristic of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic value, or that represent a significant or distinguishable entity whose components may lack individual distinction; or

- **Criterion D** – properties that have yielded or may likely yield information important in prehistory or history (National Park Service [NPS] 1995).

In accordance with Section 106, the Navy has determined that the APE for the proposed action would be the construction footprint for the ground-mounted solar PV system and the ancillary facilities and buffers, concurrent with the depiction of the proposed action, as shown on Figure 2-1. Cultural resources and/or historic properties identified within the APE for the proposed action are discussed in greater detail below in Section 3.5.1 (Architectural Resources/Historic Properties), Section 3.5.2 (Archaeological Resources), and Section 3.5.3 (Native American Resources).

3.5.1 Architectural Resources

An architectural survey at NAS Meridian was conducted in 2011 in compliance with Section 110 of the NHPA.[1] Of the 56 architectural resources (buildings, structures, objects, and facilities) surveyed, two were recommended eligible for the NRHP: Facility 211 (the Chapel) and Facility 201361 (the Bell Tower). Neither of these resources is located within the APE for the proposed action. All other resources were recommended not eligible (SEARCH 2013).

No previously identified architectural resources are located within the APE at the proposed site. However, five facilities that were identified in the ICRMP are located outside of, but adjacent to, the northeast corner of the APE at the proposed site: Facilities 12 and 13 (Jet Fuel Storage Tanks 1 and 2, respectively), Facility 14 (the Bulk Storage Facility), Facility 15 (the Tank Truck Loading Facility), and Facility 21 (the Propane Air Standby Plant). An additional resource is located to the west at Facility 264 (the Golf Course). This facility extends between Fuller Road and Rabbit Road (SEARCH 2013).

Facilities 12-15, 21, and 264 were included in the 2011 architectural survey at NAS Meridian. Constructed between 1960 and 1964, these five facilities were recommended not NRHP-eligible because they did not possess historic significance, and no future action (*e.g.*, future NRHP-eligibility evaluation) was recommended (SEARCH 2013).

Based upon the evaluations documented in the 2013 ICRMP, the Navy has considered the APE at the proposed site and determined that no architectural resources are present on the site. The Navy consulted with the Mississippi State Historic Preservation Office (SHPO) regarding the previous assessment of the architectural sensitivity of the APE at the larger 176-acre Rabbit Road Site, which encompasses the proposed 40-acre site. In a letter to the Mississippi SHPO on August 3, 2015, the Navy determined that no architectural resources, including architectural resources that are historic properties, are located within, or immediately adjacent to, the APE for the larger 176-acre Rabbit Road Site and that no architectural surveys were necessary for the proposed action (Destafney 2015a [see Appendix A]). In a letter dated January 11, 2016, the SHPO concurred with the Navy's determination.

3.5.2 Archaeological Resources

Archaeological investigations at NAS Meridian were conducted between 1973 and 2012 (SEARCH 2013). As part of these investigations, the entire NAS Meridian area was evaluated for archaeological sensitivity in order to determine the presence of archaeological resources and to make recommendations regarding the NRHP-eligibility of any identified archaeological sites.

[1] Section 110 of the NHPA directs the heads of all federal agencies to assume responsibility for the preservation of NRHP-listed or eligible properties owned or controlled by their agency. As part of this responsibility, they are directed to locate, inventory, and nominate properties to the National Register, as well as to protect these properties.

As a result of previously conducted archaeological investigations, no archaeological sites were identified within the APE at the proposed site. One archaeological site (Site LD679) was identified outside the currently proposed site but within the APE of the original, larger 176-acre Rabbit Road Site. This site is a prehistoric site with a single artifact. The site was previously determined not NRHP-eligible, and no further management of the archaeological site is required (SEARCH 2013).

The Navy has considered the APE at the proposed site and determined that it has been previously surveyed for archaeological resources such that no additional survey of the proposed site is necessary. Additionally, the archaeological site identified within the original 176-acre Rabbit Road Site has been previously determined not NRHP-eligible, such that no further archaeological investigations for the site are necessary. The Navy has consulted with the Mississippi SHPO regarding the assessment of the archaeological sensitivity of the APE at the larger 176-acre Rabbit Road Site. In a letter to the Mississippi SHPO on August 3, 2015, the Navy determined that no archaeological resources that are historic properties are located within, or immediately adjacent to, the APE for the proposed action at the original 176-acre Rabbit Road Site (Destafney 2015b, 2015c, and 2015d [see Appendix A]). In a letter dated January 11, 2016, the SHPO concurred with the Navy's determination.

3.5.3 Native American Resources

The ICRMP for NAS Meridian indicated that no Native American traditional cultural properties or sacred sites have been identified at NAS Meridian. The Mississippi Band of Choctaw Indians, along with other Native American groups, ceded Indian lands in Kemper County to the federal government between 1784 and 1894, specifically in a treaty signed on September 27, 1830, at Dancing Rabbit Creek, Mississippi (Stat. L, VII, 333), and has indicated a Native American Graves Protection and Repatriation Act (NAGPRA) interest in lands in Kemper County (NPS n.d.[a]; NPS 2015). However, the tribe does not have any land claims filed prior to 1951 for Kemper County that were judicially established by the Indian Claims Commission as of September 1978 (NPS n.d.[b]).

The Navy has consulted with this federally recognized Indian tribe regarding the potential sensitivity of the project area for Native American resources. The Navy has also consulted with the Choctaw Nation of Oklahoma and the Jena Band of Choctaw Indians. The Choctaw Nation of Oklahoma provided a response on September 11, 2015, and indicated that, although a number of Choctaw cultural sites are located near the initial five large proposed parcels, the Choctaw Nation Historic Preservation Department is not aware of any sites within the APE (Thompson 2015). Neither of the other two federally recognized tribes contacted by the Navy regarding the proposed action have responded to date.

The Navy has evaluated the APE at the proposed site for Native American resources. As discussed in Section 3.5.2.1, the APE has been previously surveyed for archaeological resources. Additionally, the archaeological site identified within the APE at the original larger Rabbit Road Site, the prehistoric isolate, has been previously determined not NRHP-eligible such that no further archaeological investigations for this site are necessary. Two historic Choctaw sites (Site LD563 and LD564) are located outside the APE.

The Navy has consulted with three federally recognized Indian tribes regarding the potential sensitivity of the project area for Native American resources: the Mississippi Band of Choctaw Indians, the Choctaw Nation of Oklahoma, and the Jena Band of Choctaw Indians. The Choctaw Nation of Oklahoma provided a response on September 11, 2015, and indicated that, although a number of Choctaw cultural sites are located near the proposed sites, the Choctaw Nation Historic Preservation Department is not aware of any sites within the APE (Thompson 2015). Neither of the other two federally recognized tribes contacted by the Navy regarding the proposed action have responded to date.

3.6 Air Quality and Greenhouse Gases

3.6.1 Regulatory Framework

Air quality is defined by ambient air concentrations of specific pollutants determined by the EPA to be of concern related to the health and welfare of the general public and the environment. The Clean Air Act (CAA) of 1970, 42 U.S.C. 7401 et seq., amended in 1977 and 1990, is the primary federal statute governing air pollution. The CAA designates standards for the following criteria pollutants: particulate matter (PM_{10} and $PM_{2.5}$), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and ozone (O_3). National Ambient Air Quality Standards (NAAQS) for these criteria pollutants have been promulgated to protect public health and welfare (see Table 3.6-1) (EPA 2016a).

Areas that do not meet the NAAQS are designated as "nonattainment" for that criteria pollutant standard. Nonattainment status is further defined by the extent the standard is exceeded. There are six classifications of ozone nonattainment status—transitional, marginal, moderate, serious, severe, and extreme—and two classifications of CO and PM_{10} nonattainment status—moderate and serious. The remaining criteria pollutants have designations of either attainment, nonattainment, or unclassifiable. Areas redesignated from nonattainment to attainment are commonly referred to as maintenance areas, indicating the area is in attainment but subject to an EPA-approved maintenance plan for a specific pollutant. In areas that exceed the NAAQS, the CAA requires preparation of a state implementation plan (SIP). The CAA prohibits federal agencies from engaging in, supporting, providing financial assistance for licensing, permitting, or approving any activity that does not conform to an applicable SIP.

The General Conformity Rule is part of the CAA promulgated by the EPA to ensure that the actions of federal departments or agencies conform to the applicable SIP. NAS Meridian is located in Lauderdale and Kemper counties, Mississippi. Both counties are in attainment for all NAAQS (EPA 2016b). Therefore, the Navy's proposed action is exempt from applicability of the General Conformity Rule requirements of the CAA.

In addition to the ambient air quality standards for criteria pollutants, national standards exist for hazardous air pollutants (HAPs), which are regulated under Section 112(b) of the 1990 CAA Amendments. More recently, EPA issued a second mobile source air toxics rule in February 2007, which generally supported the findings in the first rule and provided additional recommendations concerning compounds that have the greatest impact on health (EPA 2015). Unlike the criteria pollutants, benzene and other HAPs have no NAAQS. No major sources of HAPs are associated with this project—only temporary mobile sources are. The primary control methodologies for HAPs for mobile sources involve reducing their content in fuel and altering the engine operating characteristics to reduce the volume of the pollutant generated during combustion.

3.6.2 Climate Change, Global Warming, and Greenhouse Gas Emissions

Climate change refers to any significant change in measures of climate lasting for an extended period. Global climate change threatens ecosystems, water resources, coastal regions, crop and livestock production, and human health. Many scientific studies correlate the observed rise in global annual average temperature and the resulting change in global climate patterns with the increase in GHGs in the Earth's atmosphere. Research has suggested that worldwide use of fossil fuels is the primary source of GHG emissions (EPA 2016c).

Table 3.6-1 National Ambient Air Quality Standards

Pollutant [final rule citation]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO) [76 FR 54294, Aug 31, 2011]		Primary	8-hour	9 ppm	Not to be exceeded more than once per year
			1-hour	35 ppm	
Lead (Pb) [73 FR 66964, Nov 12, 2008]		Primary and Secondary	Rolling 3-month average	0.15 $\mu g/m^3$ (1)	Not to be exceeded
Nitrogen Dioxide (NO_2) [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]		Primary	1-hour	100 ppb	98th percentile, averaged over 3 years
		Primary and Secondary	Annual	53 ppb(2)	Annual Mean
Ozone (O_3) [73 FR 16436, Mar 27, 2008]		Primary and Secondary	8-hour	0.070 ppm(3)	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
Particle Pollution [78 FR 3086, January 15, 2013]	$PM_{2.5}$	Primary	Annual	12 $\mu g/m^3$	Annual mean, averaged over 3 years
		Secondary	Annual	15 $\mu g/m^3$	Annual mean, averaged over 3 years
		Primary and Secondary	24-hour	35 $\mu g/m^3$	98th percentile, averaged over 3 years
	PM_{10}	Primary and Secondary	24-hour	150 $\mu g/m^3$	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2) [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]		Primary	1-hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		Secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year

Source: EPA 2016a.

Notes:

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 $\mu g/m^3$ as a calendar quarter average) also remain in effect.

(2) The level of the annual NO_2 standard is 0.053 ppm. It is shown here in terms of parts per billion for the purposes of clearer comparison with the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O_3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O_3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or is not meeting the requirements of a SIP call under the previous SO_2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

Key:

FR = *Federal Register*.
$\mu g/m^3$ = Micrograms per cubic meter.
PM_{10} = Particulate matter less than 10 microns in diameter.
$PM_{2.5}$ = Particulate matter less than 2.5 microns in diameter.
ppb = Parts per billion
ppm = Parts per million.

In 2016, the EPA released the fourth report describing trends related to the causes and effects of climate change (EPA 2016c):

- While U.S. GHG emissions decreased 7 percent since 2005, these annual emissions still represent a 7 percent increase between 1990 and 2015. CO_2 in the atmosphere has increased from a historical peak of 280 parts per million to an average of 400 parts per million.
- Average U.S. and global temperatures have increased since 1900, more quickly since the 1970s. The top 10 warmest years on record have all occurred since 1998, and extreme high and low temperature conditions are becoming more common. Changes to climate patterns include more intense storms in some areas and more severe droughts in others.
- Average sea surface temperatures have increased, resulting in more acidic oceans, as well as rising sea levels. Average global sea levels rose an average of 0.06 inch per year from 1880 to 2013. However, more recently sea levels have risen 0.11 to 0.14 inch per year; regional changes in sea level vary and increases in land elevation have resulted in a decrease in sea level in some locations in Alaska and the Pacific Northwest.
- Climate change has resulted in changes the amount of snow and ice. On average, snowfall, snow cover, and snowpack in the northern U.S. have decreased. Changes to snow cover and reduced snowfall affect water supplies, hydroelectric power production, transportation, recreation, vegetation, and wildlife.
- Changes to the Earth's climate will have secondary effects on the health and well-being of its human inhabitants and natural ecosystems (EPA 2016c).

These changes impact our food supply, water resources, infrastructure, ecosystems, and health, and these indicators document how these changes are already happening. Climate-related impacts are occurring across regions of the country and across many sectors of our economy. The federal government and many state and local governments are already preparing for the impacts of climate change through "adaptation," which is planning for the changes that are expected to occur (EPA 2017b). In the southeast, communities must prepare for increases in precipitation events, droughts, and heat waves. Since 1970, average annual temperatures in the region have increased about 2 degrees with the greatest warming occurring during the summer. Average annual temperatures are projected to increase by 4°F to 8°F by the end of the century, with more days over 95°F. Hurricane-related precipitation is also projected to increase, although the intense and intermittent rainfall will not alleviate the moderate to severe spring and summer droughts (EPA 2016d).

Federal agencies are required to address GHG emissions with emission-reduction planning. Legislation includes the Energy Policy Act of 2005, which addressed energy efficiency, renewable energy, energy tax incentives, and ethanol in motor fuels (EPA 2016e), and the Energy Independence and Security Act of 2007, which reinforces energy reduction goals for federal agencies. Under the CAA, the EPA has developed and implemented GHG emission standards for stationary sources through the Greenhouse Gas Tailoring Rule and the Greenhouse Gas Reporting Program (EPA 2016f). The President has issued EOs to direct federal agencies to address climate change and GHG emissions with emission-reductions and preparedness planning and implementation. President Obama issued EO 13653, *Preparing the U.S. for the Impacts of Climate Change* (2013), which establishes task forces, research funding, and state, local, private-sector, and nonprofit sector support to address climate preparedness, resilience, and adaptation. EO 13693, *Planning for Federal Sustainability in the Next Decade* (2015) requires federal agencies to meet emission-reduction goals associated with energy use, water use, building design and utilization, fleet vehicles, and procurement and acquisition decisions. The CEQ has provided federal agencies with implementation guidance and plans to meet these new goals (CEQ 2015).

The Office of the Chief of Naval Operations M-5090.1D Environmental Readiness Program Manual (Navy 2014) states that the Navy must address the effects of climate change, identifying and quantifying GHG emissions (where possible) that may be generated in executing the proposed action, and also describing the beneficial activities being implemented Navy-wide to reduce GHG emissions. The program manual also requires the Navy to consult the latest guidance on climate change from the CEQ.

On August 1, 2016, the CEQ issued final guidance on the consideration of GHG emissions and climate change in NEPA review (CEQ 2016). The guidance clarifies that NEPA review requires federal agencies to consider the effects of GHG emissions and climate change when evaluating Proposed Actions: "Analyzing a proposed action's GHG emissions and the effects of climate change relevant to a proposed action—particularly how climate change may change an action's environmental effects—can provide useful information to decision makers and the public." (CEQ 2016). it is intended to describe controlling requirements under the terms of NEPA and the CEQ regulations.

3.7 Biological Resources

This section describes the biological resources within and adjacent to the proposed site. The biological resources that are addressed are vegetation, wildlife, and protected species.

Information on biological resources was obtained from several sources, including the following:

- Environmental Assessment for Uneven-Aged Forest Management at Naval Air Station Meridian, Meridian, Mississippi, 2004 (NAS Meridian 2004);
- *Integrated Natural Resources Management Plan, Naval Air Station Meridian, Meridian, Mississippi*, 2016 Update (NAS Meridian 2016);
- *Integrated Natural Resources Management Plan, Naval Air Station Meridian, Meridian, Mississippi* (NAS Meridian 2007); and
- *The Bat Fauna of Naval Air Station Meridian, Meridian, Mississippi- Species Occurrence, Habitat Use, and Recommendations,* Final Report (USACE 2008).

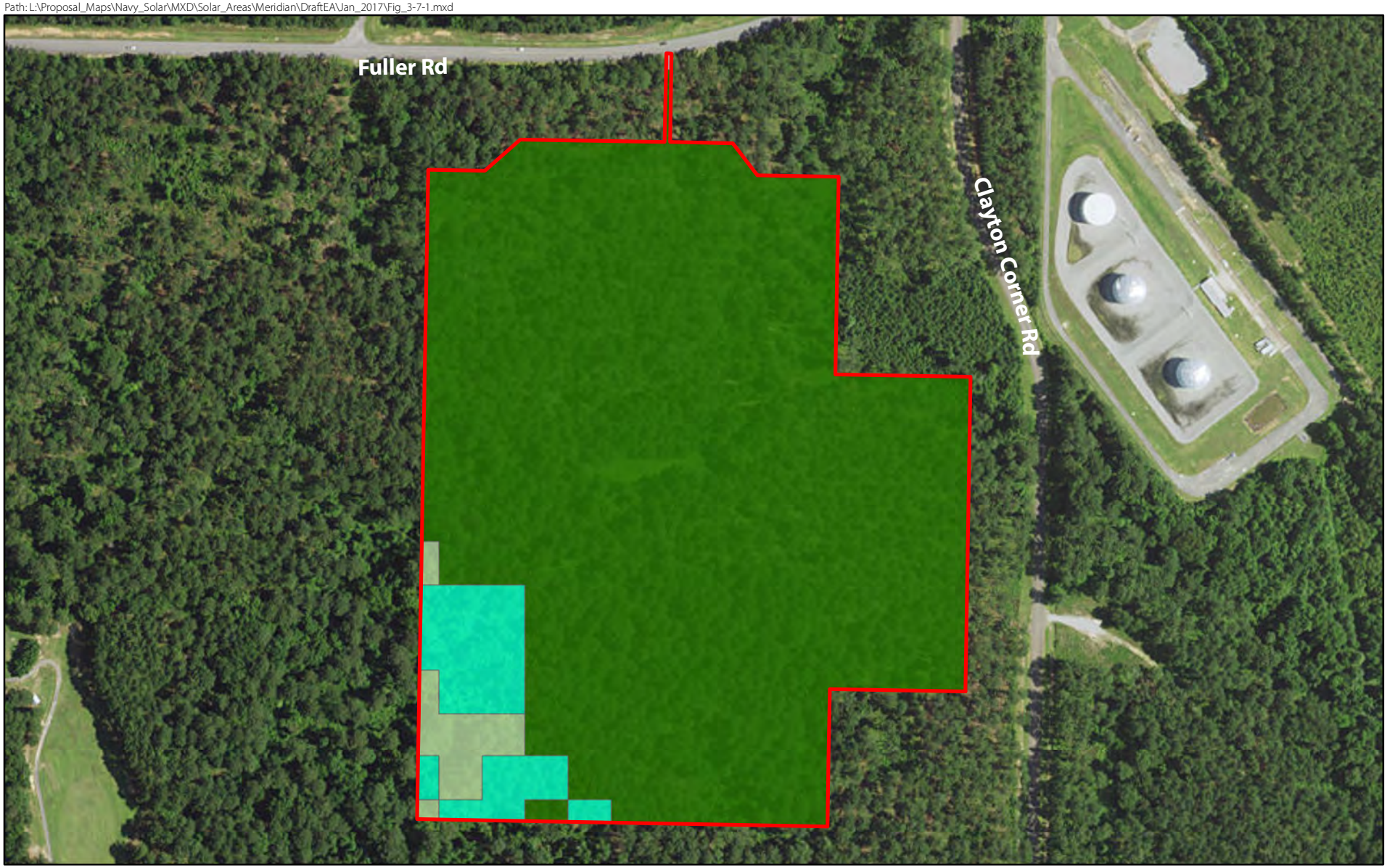
3.7.1 Vegetation

The NAS Meridian complex, which includes NAS Meridian, NOLF Joe Williams, and Target Range SEARAY, is located in the Gulf Coast Plains ecoregion. Approximately 53 percent (5,297 acres) of the total acreage within the NAS Meridian complex is forested land, predominantly covered with loblolly pine, mixed pine-hardwoods, and some shortleaf pine (*Pinus echinata*) (NAS Meridian 2013).

The 2011 National Land Cover Dataset shows seven vegetative habitat types within the proposed site and interconnection line ROW (Figure 3.7-1). The entire proposed solar array site (approximately 40 acres) is forested land. Most of the forested land is evergreen forest (34 acres). Approximately 2.4 acres of woody wetlands (discussed further in Section 3.8) are also found on the proposed site[2]. Smaller areas of mixed forest (1 acre) are also found on this site, which may include mixed hardwoods, sweetgum, mixed oaks, and hardwood pines. Additional details on each type are provided below.

[2] While the land cover dataset indicates 2.4 acres of woody wetland vegetation within the proposed site, a field delineation for this project determined that there were 1.2 acres of palustrine forested (PFO) wetlands. Wetland classifications and characteristics of PFO wetlands are discussed in the wetlands section (Section 3.8).

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\DraftEA\Jan_2017\Fig_3-7-1.mxd



SCALE

0 200 400 Feet

Service Layer Credits: NLCD 2011, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Project/Clearance Area
- Developed, Open Space
- Evergreen Forest
- Mixed Forest
- Woody Wetlands

Figure 3.7-1

Vegetative Cover Types within the Proposed Solar PV Facility Site

Lauderdale County, Mississippi

- **Evergreen Forest.** This habitat is dominated by trees generally more than 16 feet tall and constitutes more than 20 percent of total vegetation cover. More than 75 percent of the tree species maintain their leaves all year, and the canopy is never without green foliage.
- **Mixed Forest.** The cover in this habitat is similar to a deciduous forest, but neither deciduous nor evergreen species represent more than 75 percent of the cover present.
- **Woody Wetlands.** This habitat consists of wetland areas where forest or shrubland vegetation account for 25 percent to 100 percent of the cover, and the soil or substrate is periodically saturated with or covered with water. Additional discussion regarding field-delineated wetlands is provided in Section 3.8.

Access Road and Interconnection Line ROW

The proposed 1-mile interconnection line follows an existing utility ROW along Fuller Road. Approximately 200 feet of new interconnection line would be required to connect to the existing ROW. This new ROW would coincide with the proposed site access road. The proposed access road and ROW is evergreen forest habitat.

3.7.2 Wildlife

The NAS Meridian complex contains up to 300 different species of wildlife (NAS Meridian 2004; 2013). Game species found on the sites include the swamp rabbit (*Sylvilagus aquaticus*), white-tailed deer (*Odocoileus virginianus*), river otter (*Lontra canadensis*), mink (*Neovison vison*), mourning dove (*Zenaida macroura*), common snipe (*Capella gallinega*), American woodcock (*Philohela minor*), and migratory waterfowl. Additional wildlife species found on the NAS Meridian complex include the eastern cottontail rabbit (*Sylvilagus floridanus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), northern bobwhite (*Colinus virginianus*), American beaver (*Castor canadensis*), eastern wild turkey (*Meleagris gallopavo*), and wood duck (*Aix sponsa*).

Eight species of bat were captured in mist nets during a bat fauna study at NAS Meridian (Martin et al. 2008). Those species included the eastern red bat (*Lasiurus borealis*), Seminole bat (*Lasiurus seminolus*), big brown bat (*Eptesicus fuscus*), evening bat (*Nycticeius humeralis*), eastern pipistrelle (*Pipistrellus subflavus*), and southeastern bat (*Myotis austroriparius*). A more recent literature review indicated the federally listed (endangered) Indiana bat (*Myotis sodalis*) and (threatened) northern long-eared bat (*Myotis septentrionalis*) are not known to occur in the proposed project area.

Other indigenous fauna may include the black pinesnake (*Pituophis melanocleucus lodingi*), four-toed salamander (*Hemidactylum scutatum*), red salamander (*Pseudotriton ruber*), leopard frog, spring peeper (*Pseudacris crucifer*), common snapping turtle (*Chelydra serpentina*), marbled salamander (*Ambystoma opacum*), green treefrog (*Hyla cinerea*), short-tailed shrew (*Blarina brevicauda*), southeastern shrew (*Sorex longirostris*), cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), and sharp-shinned hawk (*Accipiter striatus*).

The NAS Meridian complex's wildlife management plans includes specific actions for silvicultural operations, prescribed burns, and wetland and stream protection (NAS Meridian 2016). For game species, food plots are planted (and are continuing to be planted) to attract white-tail deer and wild turkey away from runway areas as well as for hunting, viewing, and to serve as rearing sites for turkey and quail broods during spring and summer months (NAS Meridian 2016). The air operations bird-animal aircraft strike hazard (BASH) plan has been implemented to prevent aircraft collisions with wildlife. Historically, NAS Meridian has had one of the lowest bird-strike rates in the country (NAS Meridian 2013). Additionally, NAS Meridian has a Memorandum of Understanding (MOU) with the U.S. Department of

Agriculture (USDA) Animal and Plant Health Inspection Service, Wildlife Services, to establish and maintain an Integrated Wildlife Damage Management (IWDM) program. This program aims to reduce damage to property and natural resources caused by wildlife and to assist and provide technical recommendations about wildlife hazards for aircraft and human health and safety. A full-time wildlife biologist currently oversees the implementation of the IWDM program, including the use of specific techniques to displace wildlife from the runways, including measures such as approved traps, pyrotechnics, and firearms.

3.7.3 Protected Species

The Endangered Species Act (ESA) of 1973, 16 U.S.C. 1531 et seq. as amended, provides for the conservation of threatened and endangered species of animals and plants and the habitats in which they are found. The Navy conducts consultations as required under section 7 of the ESA for any action that "may affect" a federally listed threatened or endangered species. In accordance with the Office of the Chief of Naval Operations M-5090.1, potential effects on state-listed species and their habitats shall be evaluated and mitigations proposed in environmental planning documents as appropriate.

3.7.3.1 Federally-Protected Species

A review of existing installation survey reports and resources indicated that the two federally listed species potentially occurring in the region—the threatened wood stork (*Mycteria americana*) and the threatened northern long-eared bat (*Myotis septentrionalis*)—are not expected in the proposed project area. No areas within the NAS Meridian complex are designated by the USFWS as critical habitat for any threatened or endangered species (USFWS 2015).

3.7.3.2 State-Protected Species

The state of Mississippi defines "endangered species" as any species (or subspecies) of wildlife whose survival and continued welfare is in jeopardy or likely to become so in the near future. Animal species included in the Mississippi Museum of Natural Science packet are protected by The Mississippi Nongame and Endangered Species Conservation Act of 1974 (MMNS 2001). This law states that species or subspecies of indigenous wildlife should be given protection to maintain and enhance (to the extent possible) their numbers. The state prohibits taking, possessing, transporting, exporting, processing, selling, offering to sell, or offering to ship endangered species.

A review of existing installation survey reports and resources indicated that two state-listed species potentially occurring in the vicinity—the rainbow snake (*Farancia erytrogramma*) and the endangered black-knobbed map turtle (*Graptemys nigrinoda*)—are not expected in the proposed project area.

3.7.3.3 Eagles and Other Migratory Birds

Although the bald eagle (*Haliaeetus leucocephalus*) has been federally delisted, it remains state-listed and is federally protected by the Bald and Golden Eagle Protection Act, which prohibits anyone (without a permit issued by the Secretary of the Interior) from taking bald eagles, their parts, nests, or eggs. The bald eagle's habitat range encompasses the entire U.S. but because of its habitat requirements, the species is unlikely to occur on the NAS Meridian complex. Bald eagles are known to nest at nearby Okatibbee Lake and have been reported as transients but not confirmed at NAS Meridian (NAS Meridian 2016). Okatibbee Lake is approximately 12 miles from the proposed project site.

The Migratory Bird Treaty Act of 1918 (amended 16 U.S.C. 703-712 10, January 2001) prohibits the taking or harming of a migratory bird, its eggs, nests, or young, without appropriate permitting. Twenty-four species of migratory birds are thought to inhabit the NAS Meridian complex, and 14 of those species have the potential to nest there (from approximately April through September). Furthermore, most of those 14 species have specific nesting habitats likely found within the proposed site. These species

include the American kestrel (*Falco sparverius* ssp. *paulus*); Bachman's sparrow (*Aimophila aestivalis*); brown-headed nuthatch (*Sitta pusilla*); chuck-will's-widow (*Caprimulgus carolinensis*); Kentucky warbler (*Oporornis formosus*); Mississippi kite (*Ictinia mississippiensis*); painted bunting (*Passerina ciris*); prairie warbler (*Dendroica discolor*); prothonotary warbler (*Protonotaria citrea*); red-headed woodpecker (*Melanerpes erythrocephalus*); Swainson's warbler (*Limnothlypis swainsonii*); wood thrush (*Hylocichla mustelina*); and worm-eating warbler (*Helmitheros vermivorum*) (NAS Meridian 2016).

3.8 Water Resources

This section addresses the existing water resources environment, consisting of surface water and water quality, wetlands, groundwater, and floodplains.

3.8.1 Surface Waters and Water Quality

Surface waters include streams, rivers, lakes, and reservoirs. Water quality describes the chemical and physical composition of water as affected by natural and human influences. The Clean Water Act ([CWA]) 33 U.S.C. 1251) established the basic structure for regulating discharges of pollutants into waters of the United States and contains the requirements to set water quality standards for contaminants in surface waters. The EPA is the designated regulatory authority that implements pollution control programs and the other requirements of the CWA, and it delegates the regulatory authority of the CWA to the applicable state agency for the implementation of pollution control programs as well as other CWA requirements.

The CWA designates water quality standards and establishes permitting and certification processes. These standards define the goals for a waterbody by designating its uses and setting criteria to protect these uses. Water quality standards consist of three primary elements:

1. Designated best uses (also referred to as beneficial uses);
2. Narrative statements and numeric criteria (*i.e.*, for specific physical, chemical, and biological characteristics) to protect the uses; and
3. An anti-degradation policy to protect higher quality waters from being degraded.

The CWA requires that each state conduct water quality assessments to determine whether its streams, lakes, and estuaries are sufficiently "healthy" to meet their designated best uses. As mandated by Section 305(b) of the CWA, this information is updated and reported to the EPA every two years. Each state prepares 305(b) reports. The 305(b) report is the primary source of information for the development of the "Impaired Waters" list for the states, known as the 303(d) list. Impaired waters are waterbodies that do not meet the water quality standards for their designated uses. In Mississippi, there are five designated uses for surface waters: public water supply, shellfish harvesting, recreation, fish and wildlife, and ephemeral.

The MDEQ is responsible for assessing water quality and determining whether waters meet the water quality standards. To provide an accurate and representative assessment of the water quality, Mississippi uses data compiled from the MDEQ, the Mississippi State Department of Health, and the U.S. Geological Survey. MDEQ prepares a water quality assessment report every two years that is submitted to the EPA for review. This report satisfies the requirements of CWA Sections 305(b) and 303(d) and the Mississippi Water Quality Standards, included in the *State of Mississippi Water Quality Criteria for Intrastate, Interstate, and Coastal Waters*. The MDEQ prepared the State of Mississippi Water Quality Assessment 2014 305(b) Report, which is a comprehensive statewide report of surface water quality, based on data collected from January 2008 through December 2012 (MDEQ 2014). None of the four primary waterbodies on NAS Meridian, as discussed below, are listed as impaired (MDEQ 2014).

Existing surface water features were identified during field surveys from January 28 to February 14, 2015, and from October 19 to 22, 2015 (Ecology and Environment 2015). These surveys were conducted using the methodology outlined in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987) and the subsequently issued Regional Supplement for the Atlantic and Gulf Coastal Plain Region (USACE 2010). The USACE regulatory guidance letter ordinary high water mark (OHWM) identification procedure was used to identify field indicators of the OHWM within drainage features (USACE 2007) for stream channel identification.

Three types of streams were identified and characterized during the field surveys. Intermittent waterways and washes were identified as waterways having little or no flow during the survey dry periods but as having the potential to have high flow during and after a heavy rain event. Intermittent streams do not have continuous flowing water year-round and are not "relatively permanent waters." Ephemeral streams have less flow than intermittent streams, are typically shallow, and have flowing water for brief periods after rainfall. Perennial streams and waterways were defined by moderate to high flows during the surveys. Drains were identified as areas that convey water, either natural or through a man-made ditch design, but do not have a discernable bed/bank or OHWM. Only locational information was compiled for drains, but no additional data were collected because these locations were determined to not meet the criteria of a water of the United States. Other hydrologic features were also delineated, including stock or irrigation ponds, reservoirs, or other waterbodies.

NAS Meridian is within the Sucarnoochee River watershed in the Tombigbee Basin and contains four major waterbodies: Big Reed Creek, Ponta Creek, Segars Creek, and Wright Creek. Many other small perennial and intermittent waterbodies drain to these creeks on NAS Meridian. Most of the delineated stream channels at NAS Meridian eventually connect to the Sucarnoochee River, which eventually flows into the Tombigbee River in Alabama. Both rivers are considered navigable waterbodies. Three delineated stream channels at NAS Meridian are isolated features, or flow to isolated features, and have no connection to navigable waters (NAS Meridian 2013).

In total, one ephemeral stream, two intermittent streams, and one perennial stream were delineated at the proposed site (see Figure 3.8-1).

3.8.2 Wetlands

Wetlands are defined as "those areas that are inundated or saturated by groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (33 CFR 328.3[b]).

Section 404 of the CWA established a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities such as infrastructure development are regulated under this program, and a permit is required before any dredged or fill material can be discharged into wetlands or waters of the U.S. EO 11990, Protection of Wetlands, requires that new construction in wetlands be avoided to the extent possible and that all practicable measures be taken to minimize or mitigate impacts on wetlands. Mississippi regulates wetlands primarily through CWA Section 401 water quality certifications. Coastal wetlands are regulated by the Coastal Wetlands Protection Act.

Wetlands and waterbodies delineated in the proposed site were classified using the U.S. Fish and Wildlife Service (USFWS) wetland and deepwater habitat classification system (Cowardin et al. 1979) (Table 3.8-2). The highest level of this hierarchical classification is the system level, where wetlands and deepwater habitats are grouped into systems that share the influence of hydrologic, geomorphologic,

chemical, and biological factors. All wetlands are palustrine ecological systems dominated by trees, shrubs, and/or persistent emergent vegetation. There are no subsystems in the palustrine system. The classification system further subdivides wetlands into different classes based on general appearance of the life forms in the plant community (e.g., trees, shrubs, and aquatic vegetation) or the physiography and composition of the substrate (e.g., rocky shore, unconsolidated shore, and streambed). The palustrine forested wetland class is characterized by woody vegetation that is 19.7 feet or taller and greater than 3 inches in diameter at breast height. The palustrine scrub-shrub wetland class (PSS) is dominated by multi-stemmed woody vegetation less than 19.7 feet in height. This class includes shrubs, sapling trees, and trees that are small or stunted due to environmental conditions. The palustrine emergent wetland class (PEM) consists of erect, rooted, herbaceous vascular plants but excludes mosses and lichens.

A total of approximately 1.2 acres of field-delineated wetlands occur within the proposed site (see Figure 3.8-2). The two largest wetland complexes are located in the northeastern corner and on the eastern boundary, with a small complex within the southwestern corner of the site. All wetlands are classified as palustrine forested (PFO) wetlands. The solar array would be designed to avoid development within wetlands; however, trees would be cleared in these areas to minimize potential shading of panels. Trees would be cut and the stumps left in place, minimizing ground disturbance.

3.8.3 Groundwater

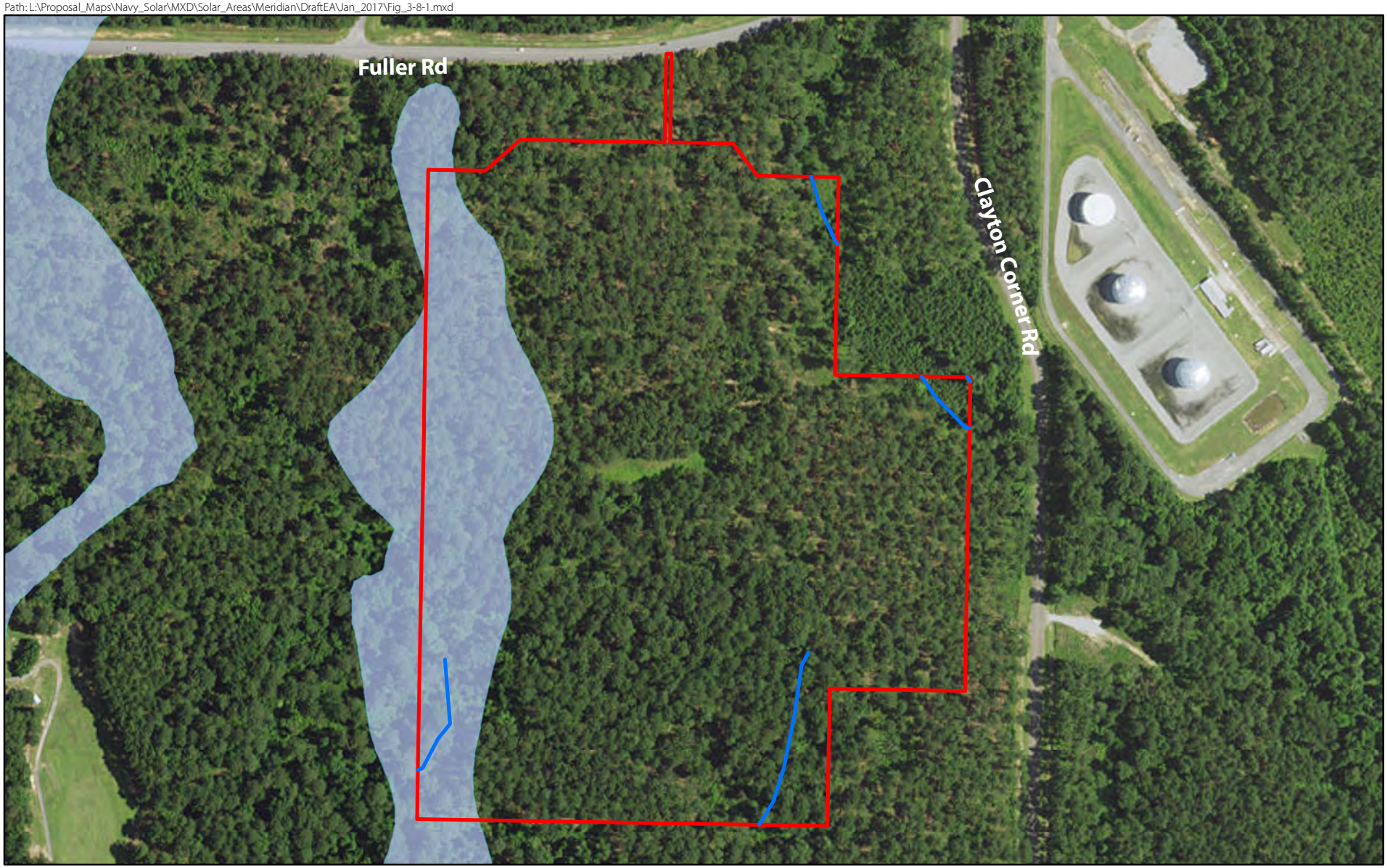
Groundwater is water beneath the land surface found in soil pore spaces and in the fractures of rock formations. It can be collected using wells, tunnels, or drainage galleries, or it may flow naturally to the ground surface via seeps or springs. An aquifer is an underground layer of water-bearing permeable rock or unconsolidated materials (*e.g.*, gravel, sand, silt, or clay) that can yield a usable quantity of water.

The Safe Drinking Water Act regulates the nation's public drinking water supply. The MDEQ administers the requirements of the Safe Drinking Water Act. The EPA's Wellhead Protection Program is a community-based approach for the protection of groundwater that supplies drinking water to public water wells and wellfields. The state has an EPA-approved wellhead protection program.

Groundwater at NAS Meridian, and in much of east-central Mississippi, is provided by the Lower Wilcox Group. The Lower Wilcox Formation is found at depths of 200 feet below land surface (NAS Meridian 2013). The Wilcox Group is composed of sand and contains three formations: the Hatchetigbee Formation, closest to the surface; the Tuscahoma Formation, in the midrange; and the Nanafalia Formation, in the lower reaches. The upper layers of the aquifer provide small to moderate amounts of water to wells, while the Nanafalia provides moderate to large yields to wells. The Nanafalia Formation sustains the base flow of some streams in the area. The principal groundwater recharge mechanism in east-central Mississippi is through precipitation on the outcrops of permeable strata. The overall quality of the groundwater resources in Mississippi remains very good, and groundwater is suitable for drinking throughout the aquifer (MDEQ 2014). An estimate of depth to groundwater has been provided below, based on the primary soil type.

Depth to the perched water table for the primary soil type at the proposed site, the Quitman loam, fluctuates between depths of 1.5 to 2 feet below ground surface in the winter and early spring (USDA 2015).

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Service Layer Credits: ESRI 2015, FEMA 2010, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Project/Clearance Area
- Field-Delineated Streams

FEMA Flood Zone

- A (1% annual chance flood event)

Figure 3.8-1

Surface Waters and Floodplains within the Proposed Solar PV Facility Site

Lauderdale County, Mississippi

3.8.4 Floodplains

A floodplain is a flat or nearly flat land area adjacent to a steam or river that experiences occasional or periodic flooding. The Federal Emergency Management Agency (FEMA) defines the regulatory 100-year floodplain as an area of land that has a 1 percent chance of flood occurrence in any given year (often referred to as the "100-year flood event"). EO 11988, Floodplain Management, requires federal agencies to identify and consider practicable alternatives for actions within floodplains.

Floodplains on NAS Meridian are associated with the four streams that dissect the installation. Portions of the land at NAS Meridian are within 100-year floodplains. Approximately 6.4 acres of the proposed 40-acre solar array site are 100-year floodplains. The solar array would be designed to avoid development within the floodplains; however, trees would be cleared in these areas.

3.9 Hazardous Materials and Waste

This section addresses sites that the Navy is managing under its Environmental Restoration (ER) Program and the handling of specialized materials and wastes that could be an environmental hazard if not properly managed. Such materials and wastes consist of hazardous substances (as defined under CERCLA); hazardous waste (as defined under the Resource Conservation and Recovery Act [RCRA]); and hazardous materials such as pesticides. CERCLA excludes petroleum, oil, and lubricants (POL) from regulation as hazardous substances.

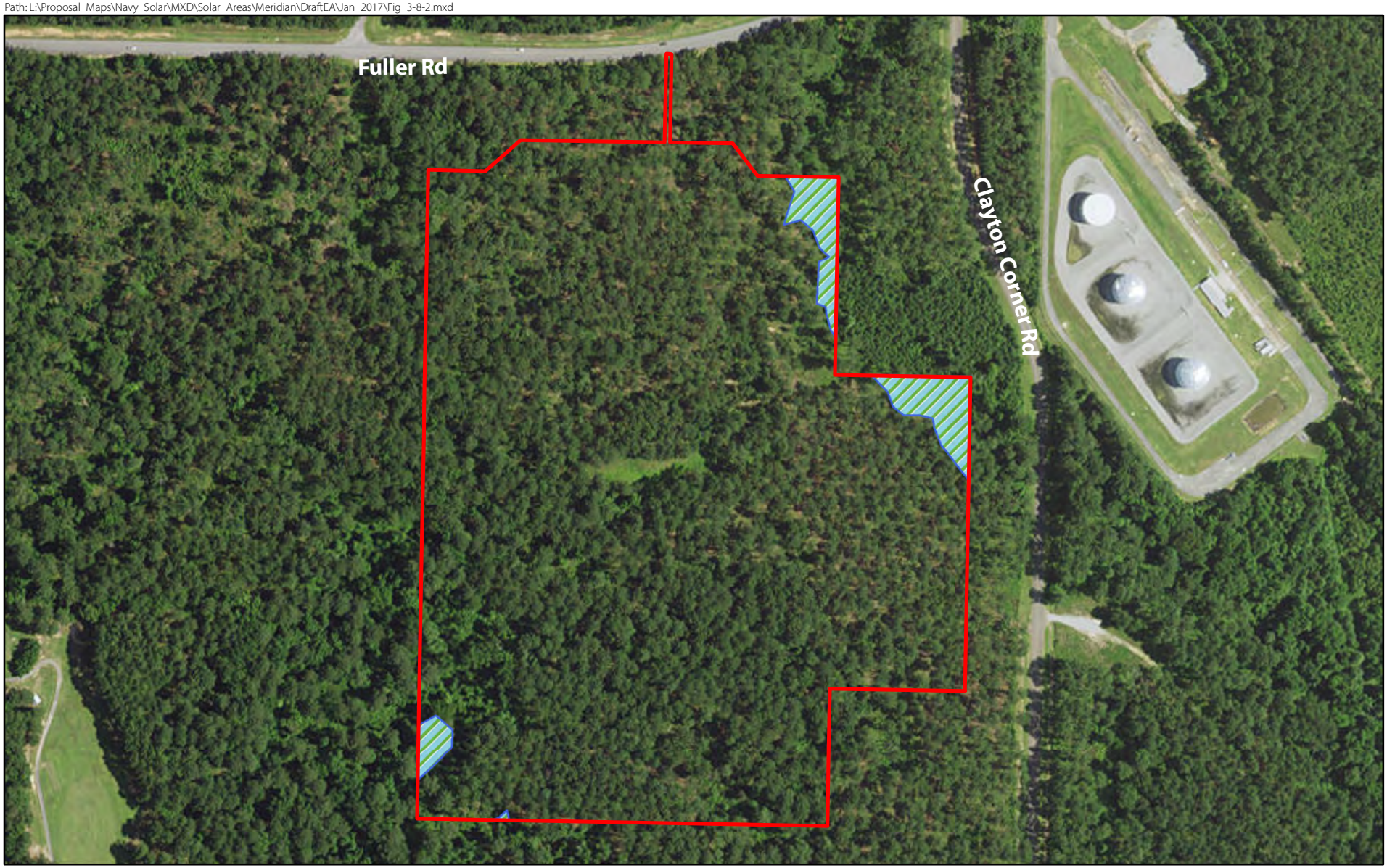
3.9.1 Environmental Restoration Program

Under the Navy's ER Program, inactive hazardous waste sites and hazardous substance spills are investigated and cleaned up in compliance with the CERCLA, commonly known as Superfund. CERCLA provides federal authority for response actions to clean up contamination from releases or threatened releases of hazardous substances that may endanger human health or the environment. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, which mandated that the DOD follow the same cleanup regulations that apply to private entities. SARA established the Defense Environmental Restoration Program (DERP), which is the broad program encompassing the Navy ER Program. The Navy ER Program encompasses three main program categories, one of which has been identified at NAS Meridian, the IRP. The IRP is structured in accordance with CERCLA requirements, which specify sequential procedures for initiating and implementing the remedial process.

Eleven IRP sites have been identified at NAS Meridian. In 2011, NAVFAC SE and the MDEQ developed a removal-focused plan to address eight of the IRP sites simultaneously. The eight sites were remediated within two years, although a few are still subject to long-term monitoring and land use controls (Navy 2013). Although areas of contamination have been identified at NAS Meridian, the station has not been placed on the EPA National Priorities List.

IRP Site 1 is located southeast of the proposed site along the west side of Rabbit Road. The site has active land use controls, but because it is located outside the project boundary, no disturbance is anticipated.

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Legend

- Project/Clearance Area
- Field-Delineated Wetland

Figure 3.8-2

Wetlands within the Proposed Solar PV Facility Site

Lauderdale County, Mississippi

3.9.2 Hazardous Waste and Hazardous Materials

NAS Meridian stores and uses hazardous materials at multiple locations for vehicle and aircraft operation and maintenance. Hazardous materials such as paints and solvents are used routinely by various facilities. NAS Meridian ensures the safe management and control of hazardous materials through the implementation of the Navy Hazardous Material Control and Management Program, which defines policy, guidance, and requirements for hazardous material and waste life-cycle control. In addition, the installation's Spill Prevention Control and Countermeasures (SPCC) Plan addresses prevention of, and specific response actions for, spills of hazardous materials at the installation. Pesticides and herbicides are used to control invasive and nuisance species in accordance with the NAS Meridian Integrated Pest Management Plan.

Under RCRA, hazardous wastes must meet either a hazardous characteristic of ignitability, corrosivity, toxicity, or reactivity or be listed as a waste under 40 CFR 261. Hazardous wastes also include universal wastes, such as certain pesticides. NAS Meridian is a large-quantity generator of hazardous waste (EPA ID No. MS1971590012) (EPA 2001). The Navy ensures the safe management and control of hazardous waste at NAS Meridian through the implementation of its Hazardous Waste Management Plan in accordance with OPNAV M-5090.1. The plan includes a Hazardous Waste Contingency Plan that describes emergency response in locations where hazardous waste and specialized wastes are generated and stored.

Hazardous materials and hazardous wastes are not currently stored or generated at the proposed site.

3.10 Topography and Soils

This section summarizes the existing topography and soil conditions at NAS Meridian and the proposed site.

3.10.1 Topography

Slopes at NAS Meridian vary from rolling hills to steep, narrow, riparian slopes along creeks. Elevations at range from 200 feet amsl in creek bottoms to 380 feet amsl on upland sites. Most of the land at NAS Meridian is characterized by gently sloping terrain, with the flattest areas occurring in alluvial floodplains of major creeks (NAS Meridian 2013).

3.10.2 Soils

Figure 3.10-1 illustrates the type of soils present at the proposed site. Table 3.10-1 contains information on all soil series (USDA 2015) that occur within the proposed solar array site and access road/new interconnection line ROW.

Table 3.10-1 Soil Series at the Proposed Site

Series, Slope	Acres	Landscape	Parent Material	Natural Drainage	Dust Potential	Shrink-Swell Potential	Flooding and Ponding Frequency	Depth of Water-saturated Zone (inches)	Organic Matter in Surface Horizon (%)	Hydric Soil
Quitman loam, 0 to 2 percent slopes	24.3	Stream terraces	Loamy alluvium	Somewhat poorly drained	Low	Low	None	18-22	2	Predominantly non-hydric
Ora fine sandy loam, 5 to 8 percent slopes	4.8	Shoulder and side slope	Loamy fluviomarine deposits	Moderately well-drained	Moderate	Low	None	24-36	2	Predominantly non-hydric
Sweatman association, 5 to 35 percent slopes	9.1	Hillslopes	Clayey marine deposits derived from sedimentary rock	Well-drained	Moderate	Low	None	>80	1.25	Predominantly non-hydric

Source: USDA 2015

3.11 Public Safety

Safety considerations associated with solar PV projects are largely different from those associated with other forms of energy generation because there is no combustible fuel source, fuel storage, or routine generation of toxic or hazardous materials with solar PV projects. Solar PV projects have electrical infrastructure requirements similar to conventional power generation facilities, such as medium-voltage power lines and substation equipment, and they have similar public safety considerations such as electromagnetic fields (EMFs). Solar PV systems also have a unique safety consideration in the potential for glint and glare from reflective or shiny surfaces. The use in modern-day panels of light-absorptive and dark-colored materials to maximize the efficiency of the panels also helps to reduce the amount of glint and glare.

This section addresses existing conditions at the proposed site with respect to glint and glare and EMF. Safety related to potential exposure to hazardous substances, wastes, and materials is discussed in Section 3.9, Hazardous Materials and Waste.

3.11.1 Glint and Glare

Light reflected off of a surface is referred to as reflectivity, which can create glint and glare (Federal Aviation Administration [FAA] 2010). Glint refers to a small flash of light, specifically as reflected from a shiny surface. Glare is reflective light that can be visually unpleasant or possibly unsafe because of the potential for temporary blindness. Glare can be caused by light from artificial sources or sunlight reflecting off of light-colored or smooth surfaces such as metal, glass, concrete, sand, water, or snow. Glare intensity varies depending on the source and intensity of the light, time of day, time of year, angle of reflectance, weather, atmospheric conditions, color and texture of material surface finish, length of exposure, nature and sensitivity of receptors, and other factors.

No known sources of glint and glare are present at the proposed site. The site is largely forested, with no functional buildings or other substantial sources of reflectivity.

3.11.2 Electromagnetic Fields

EMFs consist of invisible fields of electric and magnetic force associated with the movement of charged particles. Wherever electric currents flow, EMF is produced. These fields rapidly decrease in strength with distance from the source. Power lines and electrical equipment generate EMF.

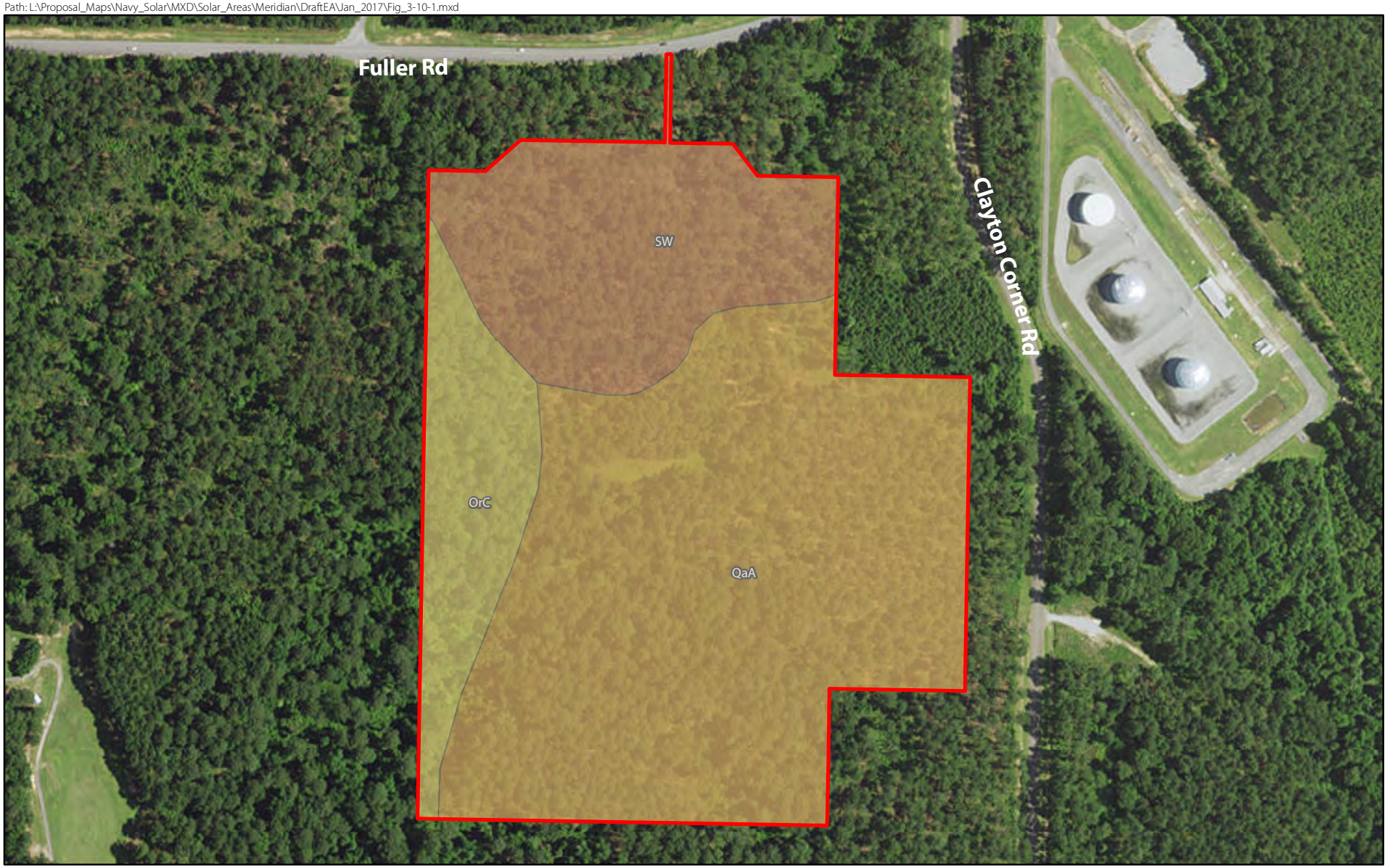
Electric power is considered to be an extremely low-frequency electromagnetic energy that is typically generated at a frequency of about 60 hertz (Hz). Examples of high-frequency EMF would be that generated by cellular telephone communication and radio and television broadcasts. Typical electric field strengths in homes in the United States range up to about 10 volts per meter (V/m) (or 0.01 kilovolts per meter [kV/m]) (National Institute of Environmental Health Sciences [NIEHS] 2002). Electric field strengths directly beneath high-voltage power lines can reach several thousand V/m. The electric field strength at the edge of a 50-foot ROW for a 230 kV interconnection line is approximately 1.5 kV per meter (kV/m). Electric field strengths for distribution lines, which are lower in voltage (typically from 4 kV to 24 kV), are less than those for interconnection lines.

Background magnetic field strength is considered to be about 0.8 milligauss (mG). Magnetic fields associated with common electrical appliances and equipment (such as computer terminals, photocopiers, hair dryers, power saws, and can openers) range from less than 10 mG up to about 1,000 mG at a distance of about 0.5 foot from the operating appliance. The average magnetic field for a home has been reported to be about 0.9 mG. The average magnetic field strength at the edge of a 50-foot ROW for a 230 kV interconnection line is about 20 mG (NIEHS 2002).

Few adverse health effects have been definitively associated with exposure to low-frequency EMF, and any causal link to cancer induction is uncertain (International Commission on Non-Ionizing Radiation Protection [ICNIRP] 2010; NIEHS 2002). Because of the uncertain relationship between exposure to EMF and possible health effects, there currently are no U.S. standards for occupational or public exposure to EMF. At least six U.S. states have set EMF exposure standards for interconnection lines; Mississippi has not set such standards. The ICNIRP has established EMF exposure guidelines for workers and the general public based on the available health effects information. ICNIRP guidelines for 60 Hz electric power components are 8.3 kV/m (occupational) and 4.2 kV/m (general public) for the electrical component of EMF, and 10,000 mG (occupational) and 2,000 mG (general public) for the magnetic component of EMF (ICNIRP 2010).

EMF has not been measured at the proposed site. Some electrical distribution lines are within the vicinity of the project site. It can be assumed that some low-level EMF is produced by those electrical lines. No other known sources of EMF are present at the site.

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Service Layer Credits: NRCS SSURGO 2015 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Project/Clearance Area
- OrC, Ora fine sandy loam 5 to 8 percent slopes
- QaA, Quitman loam 0 to 2 percent slopes
- SW, Sweatman association hilly

Figure 3.10-1

SSURGO Soil Types within the Proposed Solar PV Facility Site

Lauderdale County, Mississippi

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4 Environmental Consequences

4.1 Introduction

Chapter 4 describes the potential direct, indirect, short-term, and long-term impacts on the human and natural environment from the lease of property for the construction and operation of the proposed solar PV project and the No Action Alternative.

4.2 Land Use

This section summarizes changes in land use at the proposed site that would occur as a result of implementing the proposed action. Potential impacts on adjacent land uses also are discussed.

4.2.1 Solar PV Project

The Navy would lease approximately 40 acres of land to a third-party solar power developer that would construct and operate the solar PV system. The developer would own the solar PV system and related site improvements, while the Navy would retain ownership of the land.

The site selected for the proposed action was determined through NAS Meridian's site approval process. The base uses the site approval process to ensure that proposed development at a site does not conflict with existing operations, adjacent on-base land uses, or planned future use of the sites or adjacent areas. While the proposed action would result in changes to land use at the site, the proposed action would be consistent with Navy policies for on-base land use.

During construction, temporary construction laydown areas for materials, equipment, and parking would be contained within the 40-acre solar array site and existing utility ROW.

Construction and operation of the solar PV system would result in a change in on-base land use from managed forestland to solar PV facility. Timber resources on the site would be harvested during site clearing, and the land would no longer be available for timber production. Use of the land for recreational hunting would also no longer be viable.

While the change in land use would result in the loss of managed forestland and recreational opportunities, the proposed solar PV system would not impact any of the land uses that support the operational mission of the installation. The recreational opportunity for on-base personnel to use the managed forestland for hunting would be available at alternative locations throughout the installation, and the loss of 40 acres of managed forestland represents a loss of less than one percent of the managed forestland throughout the main base; this loss is not considered significant.

IRP Site 1 is located southeast of the proposed project site, on the west side of Rabbit Road. However, the proposed action would not impact monitoring and remediation efforts at the site.

Adjacent land uses would not be impacted by the change in land use at the proposed site. Land use surrounding the site on the north and west is managed forestland and is within the installation boundary. The on-base Ponta Creek Golf Course is located along the western boundary of the site. McCain Field is located east of the proposed project site. However, a glint/glare study indicated that development and operation of a solar PV facility at the original larger 176-acre Rabbit Road Site would not impact airfield operations at McCain Field (see Section 4.11).

These factors indicate that the proposed action would result in minor long-term impacts on land use at the site because of the change in land use from managed forestland to a solar PV facility. While the land use

change would be consistent with the Navy's site approval process, it would result in the loss of land use for timber production and hunting. However, as noted above, large areas of forestland are located throughout the installation. The proposed action would have no impact on adjacent land uses and would not have significant impacts on land use overall.

4.2.2 No Action Alternative

Under the No Action Alternative, no solar PV system would be installed, and the existing land uses at the proposed project site would not change. Consequently, the No Action Alternative would have no impact on land use.

4.3 Utilities and Infrastructure

This section discusses the utility and infrastructure systems at the proposed site. The utility and infrastructure systems evaluated consist of the electrical distribution system and the stormwater management infrastructure.

4.3.1 Solar PV Project

4.3.1.1 Electrical System

Development of the solar PV facility would result in an increase in renewable electrical energy supplied to the commercial grid. Table 4.3-1 provides the estimated capacity and electricity generation of the solar PV facility that could be constructed at the proposed project site. Annual electricity generation from the project was estimated using the NREL's PV Watts Calculator (NREL 2017) and applying the estimated 6 MW (direct current [DC]) capacity and fixed-tilt arrays. Appendix B provides the assumptions and results from the PV Watts Calculator analysis.

Table 4.3-1 Electricity Capacity and Annual Generation

Sites	Estimated Generating Capacity (MW DC)	Estimated Annual Electricity Generation (MWh [AC])	Percentage of NAS Meridian FY2012 Usage[1]
Proposed Site	6	7.982	22%

[1] Electricity generated will be sent to the grid. However, the percentage of NAS Meridian total usage is provided for reference to Navy initiatives.

The proposed solar PV facility would be owned and operated by the third-party developer, and the electricity generated would be supplied to the grid. The developer would also retain control and ownership of the RECs associated with the project. RECs represent the environmental, social, and other non-power benefits of renewable electricity generation, and they can be sold separately from the physical generating systems (EPA 2015b). The renewable energy would contribute to the Navy's goal of obtaining 50 percent of its electricity from renewable energy sources and having 50 percent of its installations at net zero energy by 2020 (Navy 2012). In addition, the installation of 6 MW(direct current [DC]) capacity would contribute to the Navy's goal of installing 1 GW of renewable energy by 2020 (Navy 2012) and EO 13693, Planning for Federal Sustainability in the Next Decade (2015). However, since the power utility would retain control and ownership of the RECs associated with the project, the renewable energy generated would apply to alternative energy goals but not the renewable energy goals of E.O. 13693 (CEQ 2015).

The CEQ provided clarifying instructions for implementing E.O. 13693. The CEQ states that "electricity produced from renewable energy projects on DOD land and from which DOD forgoes ownership of the

[Renewable Energy Certificates] RECs and does not obtain replacement RECs counts in DOD's alternative energy total" (CEQ 2015).

The amount of electricity used at NAS Meridian would not change as a result of the proposed solar PV project. Construction and operation of a solar PV system would have no impact on the capacity or functionality of the existing electrical distribution infrastructure because the infrastructure would be upgraded to accommodate the new facility. Upon full build-out of the solar PV system, ground-mounted solar PV arrays and associated electrical equipment (*e.g.*, electrical feed meters, switchgear, inverters, circuit breakers, and transformers) would connect to existing primary distribution lines. If additional capacity is needed for interconnection, the developer or power utility could upgrade the existing line to meet the new demand.

O&M of the electrical system and associated electrical equipment would be required to ensure the successful operation of the solar PV systems. O&M activities would be specified in the lease agreement between the Navy and the developer.

Construction of the solar PV system would increase the electricity generation capacity and result in long-term beneficial effects by increasing renewable energy production and use. As the electricity distribution infrastructure would be expected to have enough capacity to deliver the newly generated electricity, the impacts on electricity delivery would be minimal and not significant.

4.3.1.2 Stormwater Management

During construction, surface vegetation and trees within the project site would be cleared and the land graded in accordance with the specifics of the project design. These ground-disturbing activities during construction would require a Large Construction Stormwater General Permit from the state of Mississippi in accordance with provisions of the Mississippi Water Pollution Control Law (section 49-17-1 et seq., Mississippi Code of 1972) and Section 402(b) of the Federal Water Pollution Control Act. An SWPPP would be required in association with the General Permit; the SWPPP must include best management practices (BMPs) to reduce soil erosion and prevent contaminated stormwater from leaving the construction site. The SWPPP would also include specific mitigation measures to minimize the potential for soil erosion and stormwater runoff, including but not limited to installation of hay bales and silt fences and phasing of construction-related activities.

In addition to these regulations, Section 438 of the Energy Independence and Security Act (EISA) of 2007 (EISA 2007) requires that any development or redevelopment project involving a federal facility with a footprint exceeding 5,000 square feet shall use site planning, design, construction, and maintenance strategies in order to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow.

Operation of the solar PV system could result in the need for new stormwater conveyance systems at the project site. New impervious surface would result at the site, primarily from the construction of concrete pads to hold inverters/transformers, control buildings, and other electrical equipment. However, the amount of impervious surface created would be minimal compared with the overall size of the site. New access roads would be pervious gravel, and the area underneath the solar panels would be pervious vegetative cover and would not likely contribute to stormwater runoff.

Compliance with the state and EISA regulations will require the implementation of temporary (during construction) and permanent BMPs that maintain or restore pre-development hydrology and reduce the contaminant loading of stormwater. It is expected that the developer will obtain the required permits and comply with state and EISA regulations. As the pre-development hydrology would be restored through

the use of permanent BMPs and sound design principles, the impact on stormwater management is expected to be short-term and minimal and therefore not significant.

NAS Meridian has not adopted official BMPs for stormwater management, but pollutant loading in stormwater is prevented by operating in accordance with the NAS Meridian facility response plan, a hazardous waste management program, and a SPCC plan. To the extent that federal requirements of Section 438 of the EISA are applicable, low-impact development (LID) attributes are incorporated in the design of stormwater systems.

4.3.2 No Action Alternative

Under the No Action Alternative, the solar PV system would not be constructed and there would be no impact on existing utilities and infrastructure.

4.4 Socioeconomics and Environmental Justice

4.4.1 Solar PV Project

4.4.1.1 Socioeconomics

Substantial positive impacts and only minor adverse impacts are expected in the social and economic environment at and surrounding NAS Meridian as a result of the proposed solar PV project. No impacts on local or regional populations or demographics are anticipated to occur during the construction or operation of the project. Additionally, no impacts on the local or regional housing market (*e.g.*, including the demand or supply of housing units and local and regional property values) are expected to occur as a result of construction or operation of the project. The proposed project would not be visible from any off-station properties.

Some short-term positive economic impacts on the local and statewide economy during the construction phase and, to a lesser extent, during the operations phase of the project would occur. The construction of 6 MW(DC) of solar power-generating capacity at NAS Meridian would inject a substantial amount of funds into the region through construction expenditures. According to an economic model known as the Jobs and Economic Development Impacts Model, developed by the NREL, a typical 6 MW(DC) single-axis, crystalline-silicon, PV solar energy project in the state of Mississippi would cost approximately $30.3 million to construct. On average, approximately $14.6 million of these construction expenditures would be spent locally, and the remaining $15.7 million would be spent outside of Mississippi for the purchase of specialty equipment and/or services (NREL n.d.[a]).

As shown on Table 4.4-1, construction and installation of the solar PV system would generate an estimated 41 full-time equivalent (FTE) jobs and $2.7 million in earnings in Mississippi. An additional 55 FTE jobs and $2.6 million in earnings would be created as a result of construction and installation-related services (*i.e.*, architectural and engineering designs; permit processing; and environmental planning services). In total, a typical project of this size would directly employ approximately 96 FTE workers for the duration of construction and directly create approximately $5.3 million in additional payroll (see Table 4.4-1).

An additional 77 FTE jobs and $3.6 million in earnings would be indirectly generated in Mississippi because materials and services for the project would be purchased from vendors throughout the state. Finally, the increase in economic activity would support an additional 34 FTE-induced jobs and $1.4 million in earnings in the state economy. In total, an estimated 207 FTE direct, indirect, and induced jobs and $10.3 million in earnings would be created as a result of this project. These jobs and these earnings, however, are short-term and would last only for the duration of construction (see Table 4.4-1).

Table 4.4-1 Economic Impacts of Construction of a 6 MW DC Generation Capacity Solar PV Project in the State of Mississippi

	Jobs (Full-Time Equivalent)	Earnings (in million $)	Output (in million $)
Direct Impacts	**96**	**$5.3**	**$8.1**
Construction and Installation Labor	41	$2.7	NA
Construction and Installation-related Services	55	$2.6	NA
Indirect Impacts	**77**	**$3.6**	**$9.4**
Induced Impacts	**34**	**$1.4**	**$4.2**
Total Impacts	**207**	**$10.3**	**$21.7**

Source: NREL n.d. (a)

Notes: All figures are expressed in 2015 dollars.
Due to rounding, totals may not sum.

Operations of the proposed solar PV system at NAS Meridian would have a minor, long-term impact on the local and regional economy. Total annual operational expenses of this size project, excluding financial costs and loan repayments, typically would amount to $230,000 per year. An estimated 1.1 FTE personnel with an expected payroll of approximately $66,000 would be employed to operate and maintain these facilities. An additional $110,000 in annual expenditures would be made locally for the purchase of materials and equipment. These positive economic impacts would occur annually as long as the facilities are operational (NREL n.d.[a]).

In accordance with Office of the Chief of Naval Operations OPNAV M-5090.1, any commercially valuable timber cut during the proposed construction activities would be paid for by the lessee at the value determined by the Navy forester and deposited in the DOD forestry account to support the DOD forestry programs (Navy 2014).

Table 4.4-2 Economic Impacts of Operation of a 6 MW DC Generation Capacity Solar PV Project in the State of Mississippi

	Jobs (Full-time Equivalent)	Earnings (in '000 $)	Output (in '000 $)
Direct (On-site) Impacts	1.1	$66.6	$66.6
Indirect Impacts	0.3	$16.9	$51.4
Induced Impacts	0.2	$7.5	$22.8
Total Impacts	**1.6**	**$91.0**	**$143.6**

Source: NREL n.d (a-f).

Notes: All figures are expressed in 2015 dollars.
Due to rounding, totals may not sum.

4.4.1.2 Environmental Justice and Protection of Children

Table 4.4-3 lists the census block groups and census tracts in which each proposed solar PV facility site is located and, where appropriate, the table also lists census block groups and census tracts that are directly adjacent to the proposed solar site.

Table 4.4-3 Census Tracts and Census Block Groups Potentially Impacted by the Proposed Action

Site	Location	Adjacent Census Tract/ Census Block Group
Proposed Site	Census Tract 102.02, Block Group 1	Census Tract 102.02, Block Group 3

Demographic and economic data for all census block groups that are adjacent to or wholly or partially encompass the proposed facility sites (*i.e.*, the study area) were compared with similar county-wide demographic and economic data to determine whether the proposed action could have disproportionately high and adverse effects on minority or low-income populations. A minority population is identified as an area where the minority population of the affected area exceeds 50 percent or where the minority population percentage of the affected area is "meaningfully greater" than the minority population percentage in the general population or other appropriate unit of geographic analysis. In this analysis, "meaningfully greater" is defined as anything 3 percent or greater than the area of comparison, namely Kemper or Lauderdale counties. Low-income populations in the affected area are identified according to the annual statistical poverty thresholds from the U.S. Bureau of the Census.

As shown in the gray-shaded cells in Table 4.4-4 and based on the threshold levels described above, the Navy has determined the following:

- Census Tract 102.02, Block Group 1, in Lauderdale County has relatively greater Hispanic/Latino populations than the community of comparison.

Table 4.4-4 Environmental Justice Population Characteristics in the Project Area (2010 and 2012)

Geographic Unit	Total Population	Percent Minority	Percent Hispanic or Latino	Percent Below Poverty Level[1]
Lauderdale County	**80,261**	**45.2%**	**1.8%**	**23.4%**
Census Tract 102.02, Block Group 1	1,323	42.8%	12.0%	10.5%
Census Tract 102.02, Block Group 3	974	16.9%	1.6%	10.5%

Source: U.S. Bureau of the Census 2012a, 2012b, n.d.[b].

Note: Data for Total Population, Percent Minority, Percent Hispanic, and Percent <18 Years are from the *2010 Census of Population and Housing*. Data for Percent Below Poverty Level are from the *American Community Survey 2008-2012*.

[1] Income statistics are not provided at the census block group level by the U.S. Bureau of the Census; therefore, poverty level data presented on the table are for the larger census-tract level.

Environmental justice communities are present within the study area. In Lauderdale County, these areas contain percentages of Hispanic or Latino populations that are higher in the affected census block group and census tract than in the county as a whole.

However, no significant negative environmental or human health impacts are expected to occur as a result of construction or operation of this project and thus a disproportionately high or adverse effect on these populations would not occur. The property would be fenced during construction and operation, and access would be permitted only to authorized personnel. In addition, the proposed site locations are entirely within the installation boundaries. Some short-term impacts associated with construction, including increased truck traffic and noise, dust, or vibration impacts, may occur, but these impacts are expected to be short term and minor. In addition, some minor visual impacts may occur; however, the proposed site would not be visible to off-site properties

Any lighting installed within the solar PV facility areas would be shielded and directed downward and would be the minimum necessary for construction, operations, safety, and security.

In addition, there would be no disproportionately high or adverse effects on these environmental justice communities during construction or operation of the proposed project with regard to hazardous substances, wastes, or materials. This proposed project would not generate or disturb any known hazardous substances, wastes, or materials; therefore, human health and the environment would not be impacted by hazardous substances, wastes, or materials. Accordingly, potential environmental health or safety risks to children from hazardous substances at these sites would not occur as a result of this project.

4.4.2 No Action Alternative

The No Action Alternative would have no impact on the local or regional population, demographics, housing market, or economy. No additional expenditures from construction or operations would occur, and, therefore, there would be no impacts on employment, earnings, or output in the local or regional economy. There would be no environmental justice impacts under the No Action Alternative.

4.5 Cultural Resources

NEPA guidance requires the evaluation of the potential impacts of a proposed action on cultural resources, including architectural or built resources, archaeological resources, and Native American resources. The Navy has evaluated potential impacts of the proposed action on architectural and archaeological resources in terms of their effects on cultural resources that are historic properties, pursuant to Section 106 of the NHPA. Potential impacts of the proposed action on Native American resources have been evaluated in terms of direct or indirect impacts that are permanent or temporary (*i.e.*, long-term or short-term).

To comply with Section 106 of the NHPA, including its implementing regulations codified in 36 CFR Part 800 (Table 4.5-1), the Navy is required to identify historic properties within the APE, as defined previously in Section 3.5, and to consider the effects of a proposed action on these properties. The effects of the impacts of the proposed action on historic properties were evaluated pursuant to Section 106 of the NHPA, using Advisory Council on Historic Preservation (ACHP) guidance on determining effects, including findings of no effect on historic properties, no adverse effect on historic properties, and adverse effect on historic properties (36 CFR 800.4(d) and 800.5 [ACHP 2004]).

4.5.1 Solar PV Project

4.5.1.1 Architectural Resources

The Navy evaluated the potential impacts of the proposed solar PV facility under NEPA and determined that the facility would have no impacts on architectural resources because none are present within the APE at the site.

The Navy also evaluated the potential effects of the proposed solar PV facility under Section 106 of the NHPA and determined that the facility would have no effect on architectural resources that are historic properties because none are present within the APE at the proposed site. The Navy consulted with the Mississippi SHPO on the effects of the proposed action at NAS Meridian in compliance with the Section 106 process (DeStafney 2015a [see Appendix A]). In a letter dated January 11, 2016, the SHPO concurred with the Navy's determination of effect.

Table 4.5-1 Finding of Effects on Historic Properties

Finding of No Historic Properties Affected (No Effect on Historic Properties)
"If the agency official finds that either there are no historic properties present or there are historic properties present but the undertaking will have no effect upon them as defined in §800.16(i), the agency shall provide documentation of this finding, as set forth in §800.11(d), to the SHPO/THPO" (36 CFR 800.4[d][1]).
Finding of No Adverse Effect
"If the agency official finds that there are historic properties which may be affected by the undertaking, the agency official shall notify all consulting parties, including Indian tribes and Native Hawaiian organizations, invite their views on the effects and assess adverse effects, if any, in accordance with §800.5" (36 CFR 800.4[d][2]). "The agency official, in consultation with the SHPO/THPO may propose a finding of no adverse effect when the undertakings' effects do not meet the criteria of paragraph (a)(1) [of 36 CFR 800.5] or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO/THPO . . . to avoid adverse effects" (36 CFR 800.5[b]). The agency official shall maintain a record of the finding of no adverse effect and provide information on the finding to the public on request consistent with the confidentiality provisions of §800.11(c)" (36 CFR 800.5[d]).
Finding of Adverse Effect
"An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or cumulative" (36 CFR 800.5[a][1]).
Examples of Adverse Effect
"Adverse effects on historic properties include but are not limited to: ■ Physical destruction of or damage to all or part of the property ■ Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation and provision of handicapped access that is not consistent with the Secretary's Standards for the Treatment of Historic Properties (36 CFR Part 68) and applicable guidelines ■ Removal of the property from its historic location ■ Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance ■ Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features ■ Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an Indian tribe or Native Hawaiian organization ■ Transfer, lease, or sale of property out of federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance" (36 CFR 800.5[a][2]).

Source: ACHP 2004.

4.5.1.2 Archaeological Resources

The Navy evaluated the potential impacts of the proposed solar PV facility under NEPA and determined that the facility would have no effect on archaeological resources because none are present within the APE at the proposed site. The only archaeological site identified, historic site 22LD679, is outside of the APE of the proposed site but within the APE at the original, larger Rabbit Road Site.

The Navy also evaluated the potential effects of the proposed solar PV facility under Section 106 of the NHPA and determined that the solar PV facility would have no effect on archaeological resources that are historic properties because none are present within the APE at the proposed site. The Navy consulted with the Mississippi SHPO on the effects of the proposed action at NAS Meridian in compliance with the Section 106 process (DeStafney 2015b, 2015c, 2015d [see Appendix A]). In a letter dated January 11, 2016, the SHPO concurred with the Navy's determination of effect.

4.5.1.3 Native American Resources

The Navy evaluated the potential for the proposed solar PV facility to impact Native American resources. No Native American resources have been identified within the proposed site to date. The Navy has consulted with three federally recognized tribes with an interest in NAS Meridian property—the Mississippi Band of Choctaw Indians, the Choctaw Nation of Oklahoma, and the Jena Band of Choctaw Indians—on the effects of the proposed action in compliance with the Section 106 process (DeStafney 2015b, 2015c, 2015d [see Appendix A]). The Choctaw Nation of Oklahoma provided a response on September 11, 2015, indicating its concurrence of no historic properties affected (Thompson 2015).

4.5.2 No Action Alternative

Under the No Action Alternative, no construction of a solar PV system would occur, and there would be no new ground disturbance within the APE at the proposed site at NAS Meridian. Pursuant to Section 106 of the NHPA, the No Action Alternative would have no effect on any architectural, archeological, or Native American resources that are historic properties because none have been identified within the APE for the solar PV facility at NAS Meridian to date, and no undertaking would occur to cause an effect.

4.6 Air Quality and Greenhouse Gases

This section provides a summary of the projected changes in direct and indirect emissions associated with the construction and operation of the solar PV facility and the impact of the projected changes in emissions on local and regional air quality, GHG levels, and climate change. The General Conformity Rule does not apply to this action because the region is in attainment for all NAAQS.

4.6.1 Solar PV Project

4.6.1.1 Criteria Air Pollutants

The proposed action would result in direct emissions of criteria air pollutants associated with construction and operation of a solar PV facility. In addition, the proposed action could result in reducing indirect emissions associated with the decrease of fossil fuel-derived electricity on the grid that would be replaced by solar energy-generated electricity.

Construction Activities

Construction activities would result in temporary and minor increases in air emissions from the combustion of fossil fuels in equipment and vehicles, from the fugitive dust and dirt emissions associated with ground disturbance, and from open burning of forest-removal and land-clearing vegetation debris. Table 4.6-1 shows estimated criteria pollutant emissions from construction activities.

In addition, open burning of debris following the harvest of forest resources would result in particulate emissions. Table 4.6-1 also shows estimated criteria pollutant emissions from burning debris.

Open burning of tree-cut land-cleared debris in Mississippi requires a permit and strict emissions controls, including the use of an air curtain incinerator (MDEQ 2015). Emissions noted in Table 4.6-1 from burning such debris have been estimated assuming that the developer would use an air curtain incinerator. Use of an air curtain incinerator is conservatively assumed to provide 50 percent emission control for PM emissions from debris burning.

Table 4.6-1 Annual Criteria Pollutant Emissions from Construction

Activity	Total Emissions (Tons)					
	VOCs	CO	NOx	SO_2	PM_{10}	$PM_{2.5}$
NAS Meridian: Lauderdale County						
Non-road equipment	0.62	2.83	6.29	0.011	0.55	0.55
On-road equipment	0.27	2.46	0.72	0.01	191.35	0.92
PM Emissions from Site Preparation	-	-	-	-	5.83	0.58
PM Emissions from Land Clearing Debris Burning	-	-	-	-	13.23	1.32
Total	**0.89**	**5.28**	**7.01**	**0.02**	**210.95**	**3.38**

Key:
CO = Carbon monoxide.
NO_x = Nitrogen oxides.
PM_{10} = Particulate matter less than 10 microns in diameter.
$PM_{2.5}$ = Particulate matter less than 2.5 microns in diameter.
SO_2 = Sulfur dioxide
VOCs = Volatile organic compounds.

Other criteria pollutant emissions were calculated assuming that ground disturbance would occur on approximately 45 acres (including the project site and ROW) and that construction activities would be conducted within one year. Emission factors for non-road vehicles and equipment were obtained from EPA's NONROAD2008 model (EPA 2014a), and on-road emission factors were obtained from EPA fact sheet information (EPA 2008). Appendix B provides the assumptions and calculations used to estimate the total emissions.

The projected construction emissions summarized in Table 4.6-1 would be minor and temporary, and they are not expected to result in significant impacts on air quality.

Construction emissions could be reduced using BMPs. Emissions from burning could be reduced by as much as 95 percent using an air curtain incinerator. Proper operation of the air curtain incinerator and restrictions on open burning (*e.g.*, restricting the materials that can be burned, minimum distance from occupied dwelling, prohibiting operations during High Fire Danger Alert) will limit the impact on air quality. Exhaust emissions from construction vehicles can be reduced by using fuel-efficient vehicles with emission controls and ensuring that all equipment is properly maintained. Dust emissions from ground disturbance and road traffic should be controlled by spraying water on soil piles and graded areas and keeping roadways clean.

Operational Activities

Operational activities that would result in direct air emissions would be minimal. Operational emissions would occur from vehicle usage to and from the site for maintenance and landscaping activities. Since operational activities would be considerably less on an annual basis than the construction activities evaluated, operational emissions would result in a negligible impact on air quality in the region.

Operation of the solar PV facility could also potentially result in an indirect reduction in regional criteria pollutant emissions through the decrease of fossil fuel-derived electricity on the grid that would be replaced by the increase of solar PV renewable energy electricity. Although NAS Meridian is in Mississippi, they are located in the SERC Tennessee Valley (SRTV) eGRID subregion, and power is provided by TVA. Using average electricity emission factors for the SRTV eGRID region (EPA 2017a), the reduction of fossil fuel-derived electricity by 7,982 MWh (AC) annually would result in a reduction of 4.0 tons per year of NO_2 emissions and 8.8 tons per year of SO_2 emissions regionally. Appendix B provides the results from the PV Watts Calculator as well as emission factors and calculations. With this potential reduction of NO_2 and SO_2 emissions in the region each year, the indirect reduction in emissions resulting from the proposed action could result in a minor beneficial impact on air quality in the region.

4.6.1.2 GHG Emissions and Climate Change

The proposed action would address climate change and reduce GHG emissions and would be consistent with the renewable energy, energy reduction, and GHG reduction goals established by the Navy (Navy 2012). By increasing renewable energy generation at NAS Meridian, the proposed action would also address the alternative energy goals established by EO 13693 and therefore could have a beneficial impact on climate change.

GHG Emissions

The proposed action would result in the direct emission of GHGs associated with construction and operation of the solar PV facility. CO_2, methane (CH_4), and nitrous oxide (N_2O) would be emitted from the combustion of fossil fuels in equipment and vehicles during construction activities and from vehicles driving to and from the site for maintenance during operation. Direct emissions of GHGs during construction and operation would be minimal and for construction activities, emissions would be temporary. Therefore, direct GHG emissions from the construction and operation would have a negligible impact on GHG emissions in the region.

The proposed action could have indirect impacts on the regional GHG emissions of CO_2, CH_4, and N_2O resulting from the reduction of fossil fuel-derived electricity and the increase of renewable energy supplying the grid. Table 4.6-2 shows the reduction in annual GHG emissions in metric tons carbon dioxide equivalency ($MTCO_2e$) resulting from operation of a solar PV facility. GHG emission reductions were estimated using eGRID 2014 annual non-baseload output emission rates for CO_2, CH_4, and N_2O in the SRTV eGRID subregion (EPA 2017a). The effect of a particular GHG on global climate change depends on its global warming potential (GWP). The GWP for GHGs other than CO_2 is calculated relative to CO_2 and reported in terms of CO_2 equivalency (CO_2e). By multiplying the mass of a GHG emitted by its GWP, an equivalent amount of CO_2 is calculated (*e.g.*, with a GWP of 25, one pound of CH_4 is equivalent to 25 pounds of CO_2e) (EPA 2016g).

Table 4.6-2 Annual GHG Emissions Reductions

Electricity Generated (MWh)	Emissions per Year ($MTCO_2e$)					
	CO_2	CH_4	N_2O	Total CO_2e	CO_2e Uptake Loss from Forest Removal	Total CO_2e Reduced
7,982	4,953	13	22	4,988	(98)	4,890

Key:
CH_4 = Methane.
CO_2 = Carbon dioxide.
$MTCO_2e$ = Metric tons carbon dioxide equivalent
N_2O = Nitrous oxide.

Annual reductions in GHG emissions have been estimated using the MW capacity and calculating a proportional amount of renewable energy generation (MWh) and GHG emission reductions (see Table 4.6-3). Appendix B provides the results from the PV Watts Calculator as well as emission factors and calculations. The proposed action would have an indirect beneficial impact on GHG emissions in the region.

Table 4.6-3 Annual GHG Emissions Reductions

Site	System Size (MW[DC])	Estimated Annual Electricity Generation (MWh[AC])	Estimated Annual Reduction in GHG Emissions ($MTCO_2e$)
Proposed Site	6	7.982	4.988

Construction of the solar PV system would require removing 38 acres of forest at NAS Meridian. The carbon sequestration and loss of annual CO_2 uptake from the removed forest have been estimated using *Methods for Calculating Forest Ecosystem and Harvested Carbon with Standard Estimates for Forest Types of the United States* (Smith et al. 2006). Based on an estimated age of the forest of 50 years, the loss of sequestration capacity, or "carbon sink," is estimated at 1,731 metric tons of carbon, which is the equivalent of 6,354 metric tons of CO_2.

The loss of forested land would also lead to an annual loss in the CO_2 capture provided by future growth of trees in the forests. Based on the estimated annual carbon uptake of live trees in the 38 acres of forest, the total equivalent loss of CO_2 uptake is an average of 98 metric tons per year (see Appendix B for specific calculations and details).

Table 4.6-2 shows the reduction in annual GHG emissions in $MTCO_2e$ resulting from the proposed action. The proposed action would have an indirect beneficial impact on GHG emissions in the region. (see Appendix B for PV Watts Calculator [NREL 2017] outputs and detailed assumptions and calculations).

4.6.2 No Action Alternative

The No Action Alternative would have no impact on criteria air pollutant emissions or GHG levels. No additional renewable energy would be generated and, therefore, no indirect reductions in criteria air pollutants or GHG emissions would occur.

4.7 Biological Resources

The following subsections discuss the potential impacts on vegetation, wildlife, and protected species at the proposed site.

4.7.1 Vegetation

4.7.1.1 Solar PV Project

Implementation of the proposed action would include site preparation, construction activities, and operation/maintenance of the proposed solar PV system. Site preparation (*e.g.*, grubbing and grading) and installation of the solar PV system would result in long-term, permanent impacts on vegetative communities within the proposed site boundary. Revegetation would be coordinated with and approved by the appropriate installation personnel and would likely comprise native, maintainable grasses.

As a result of the proposed action, an estimated 40 acres of vegetative habitats would be permanently impacted by the development of a solar PV system. Approximately 90% of the site is classified as evergreen forest, with the remaining areas a combination of mixed forest and woody wetlands.

Construction would result in direct effects on these communities through the removal of individual or populations of plants within the project footprint or through the conversion of existing vegetation types to maintained grasslands. The vegetation communities are not sensitive habitats and are not known to contain any threatened or endangered plant species. In addition, the site is managed forestland, and the future removal of timber would be expected. Given the large amount of forest within the area (*i.e.*, the NAS Meridian complex and the surrounding area/region) and that the area is managed forestland, construction activities for the proposed action would be moderate but would not result in significant impacts on vegetation resources.

Temporary, minor impacts on vegetation could occur during operation and maintenance of the solar PV facility. Maintenance would include panel washing and panel replacement; trimming grass, groundcover, and vegetation beneath and near the panels; and occasionally applying herbicides to control vegetation so that it does not block or shadow the panels. Trees and shrubs may be removed when they reach a height that could interfere with the operation of the proposed array. Herbicides could be used sparingly when other methods of required vegetation-control are not practicable, and herbicide use will be in accordance with applicable federal, state, and local guidelines. Herbicide application would be minimized and would follow procedures and protocols outlined in the Integrated Pest Management Plan; applicable local, state, and federal requirements; and manufacturer guidelines. Therefore, impacts from operation and maintenance of the solar PV system would be moderate but would not be significant.

4.7.1.2 No Action Alternative

Under the No Action Alternative, the proposed project would not occur, and the natural state of the forested site would remain unchanged. Under this alternative, the Navy would not lease land for operating a solar PV system. As such, no impacts on vegetation would occur. The site would be maintained as before, as directed by the Integrated Natural Resources Management Plan (INRMP).

4.7.2 Wildlife

4.7.2.1 Solar PV Project

Implementation of the proposed action would have both short-term and long-term impacts on wildlife species. As noted above, site preparation (clearing, timber harvesting, grubbing, burning, and grading) during construction would result in long-term, permanent impacts on approximately 40 acres of vegetative habitat (project site and combined access road/interconnection line ROW). The vegetation along the 1-mile interconnection route would be returned to previous conditions (i.e., maintained grass) following trenching. These direct impacts on vegetation may result in displacement of wildlife and loss or conversion of suitable habitat for various wildlife species. Loss of habitat may cause the migration of wildlife to other areas with suitable habitat, resulting in a decrease in the number of species in the area of the project site. Wildlife species would be expected to return to the peripheral areas and to portions of the project site where trees and brush habitat have not been cleared following construction.

Elevated noise levels would be expected in the immediate vicinity of the construction area as a result of equipment and vehicle operation. Behavioral responses may include avoidance, changes in vocalization patterns (Penna and Zúñiga 2014) or temporary cessation of foraging or reproductive activities. Another effect of elevated noise may be masking of vocalizations (Vargas-Salinas and Amézquita 2014). Natural and artificial sounds can disrupt behavior by auditory masking, or interfering with an animal's ability to detect and interpret other relevant sounds, *e.g.*, communication signals (Wartzok et al. 2003). However,

due to the proximity of the proposed solar PV site to the active airfield at NAS Meridian, any noise associated with construction would be minimal by comparison, and wildlife in the area may have habituated (i.e,, become accustomed) to high-noise conditions. Effects would be temporary and intermittent, and they would be expected to cease once construction is complete. Additionally, they would diminish with distance from the activity taking place as a result of signal attenuation.

The proposed action would have negligible impacts during O&M. Fencing around the solar array may prevent larger species from traversing the area.

4.7.2.2 No Action Alternative

Under the No Action Alternative, the proposed project would not occur, and the natural state of the forested site would remain unaltered. Under this alternative, the Navy would not lease the land for the installation of a solar PV system; therefore, no impacts on wildlife would occur. Land use and forested areas would be maintained as before, as directed by the INRMP. Implementation of the No Action Alternative would not fulfill the purpose and need for the proposed project.

4.7.3 Protected Species

4.7.3.1 Solar PV Project

Federally Protected Species

As noted in Section 3.7.3.1, no federally listed species have been documented or are expected at the proposed site. Pursuant to section 7 of the Endangered Species Act, the proposed action would have no effect on the threatened wood stork, or the threatened northern long-eared bat.

State-listed Species

As noted in Section 3.7.3.2, no state-listed species have been documented or are expected at the proposed site. The proposed action would have no impact on state-listed species.

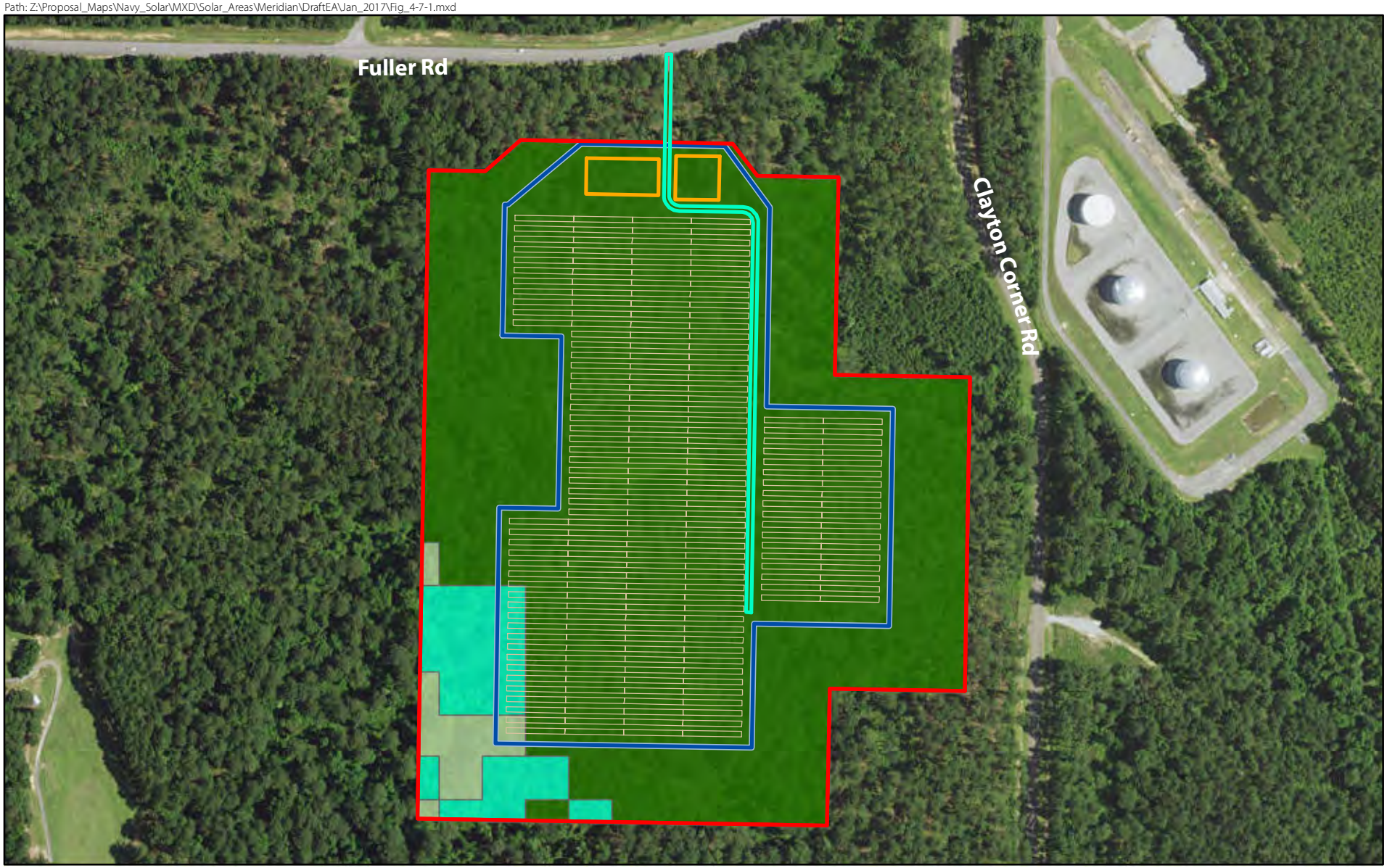
4.7.3.2 No Action Alternative

Under the No Action Alternative, the proposed project would not occur, and the natural state of the forested site and associated protected species would remain unaltered. Under this alternative, the Navy would not lease the land for the installation of a solar PV system; therefore, no impacts on protected species would occur. Protected species would be maintained as before, as directed by the INRMP. Implementation of the No Action Alternative would not fulfill the purpose and need for the proposed project.

4.7.4 Migratory Birds

Potential effects of construction activities may include changes in physiology (*e.g.*, stress, reproductive hormone levels) (Blickley et al. 2012; Sanyal et al. 2013) and behavior (*e.g.*, avoidance, foraging, vocalization, attention) (Shen 1983; Bowles 1995). However, because activities would be temporary and intermittent, these effects would be insignificant. Migratory birds temporarily displaced would be expected to return to the project area once construction is complete. A study by Payne et al. (2012) suggests that bird populations in urban environments can rebound very shortly after even large-scale, extremely noisy events. Further, potential for noise-related effects would decrease with distance from the source of the noise, particularly if topography or vegetation attenuates the signal (Washington State Department of Transportation 2014).

Path: Z:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\DraftEA\Jan_2017\Fig_4-7-1.mxd



SCALE

0 200 400 Feet

Service Layer Credits: NLCD 2011, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Project/Clearance Area
- Ancillary Facilities
- Solar Panel Array Construction Area
- Array Layout
- Access Road
- Developed, Open Space
- Evergreen Forest
- Mixed Forest
- Woody Wetlands

Figure 4.7-1

Vegetation Impacted by the Proposed Solar PV Facility Site

Lauderdale County, Mississippi

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A phenomenon known as "lake effect" has been observed in the vicinity of large-scale solar arrays, particularly in the southwestern U.S. (Upton 2014; Kagan et al. 2014). While further research is required to determine the exact cause of avian behavioral changes and mortalities around solar farms, scientists have hypothesized that birds can mistake solar arrays for water bodies, thus increasing the potential for temporary disorientation or collisions with panels and infrastructure. The solar panels used for the proposed PV array would be dark blue or black and have low reflectivity with the use of an anti-reflective coating, dimpling of the panel surface, and the overall light absorption character of the low-iron glass that is proposed for use in the system. Reflection of only a small percentage of incoming sunlight would be anticipated (Federal Aviation Administration 2010).

Pursuant to the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, the proposed action is not expected to result in harm to bald eagles or migratory birds.

4.7.4.1 No Action Alternative

Under the No Action Alternative, the proposed project would not occur, and the natural state of the proposed site and migratory birds would remain unaltered. Under this alternative, the Navy would not lease the land for installation of a solar PV system; therefore, no adverse effects on migratory birds would occur. Migratory bird species and habitat within the proposed site would be maintained as before, as directed by the INRMP. Implementation of the No Action Alternative would not fulfill the purpose and need for the proposed project.

4.8 Water Resources

4.8.1 Solar PV Project

4.8.1.1 Surface Water and Water Quality

The proposed array and ancillary facilities within the boundary of the proposed site would be situated to avoid direct impacts to surface water. Minor indirect impacts in the form of erosion and sedimentation could temporarily result from construction activities; however, these impacts would be minimized by the maintenance of a 15-foot buffer around all field-delineated streams.

Ground-disturbing activities during construction would require a Large Construction Storm Water General Permit from the state of Mississippi, in accordance with provisions of the Mississippi Water Pollution Control Law (section 49-17-1 et seq., Mississippi Code of 1972) and Section 402(b) of the Federal Water Pollution Control Act. A SWPPP would be required in association with the General Permit, and it must include BMPs to reduce soil erosion and prevent contaminated stormwater from leaving the construction site. The SWPPP would also include specific mitigation measures to minimize the potential for soil erosion and stormwater runoff, including but not limited to installing hay bales and silt fences and phasing construction-related activities.

In addition to these regulations, Section 438 of the EISA (EISA 2007) requires that any development or redevelopment project involving a federal facility with a footprint exceeding 5,000 square feet shall use site-planning, design, construction, and maintenance strategies in order to maintain or restore the predevelopment hydrology of the property with regard to temperature, rate, volume, and duration of flow.

Following completion of construction, the site would be revegetated with an herbaceous groundcover to minimize soil erosion, and temporary construction laydown areas would be restored to pre-construction conditions.

Soil in portions of the proposed site would be compacted as necessary inverter pads, and other features associated with the project. Soil compaction decreases the rate at which precipitation infiltrates the ground, making the soil surface more impervious, which can lead to increased stormwater runoff. However, as outlined above, compliance with permit conditions as well as implementation of BMPs would decrease the magnitude of impacts on water quality.

Potential spills of fuels or other chemicals and hazardous materials could occur during construction and operational activities. During operation, hydraulic fluid leaks could occur in the tracking systems, potentially resulting in point or non-point discharges of hazardous materials into surface waters, which could lead to adverse impacts to water quality. Necessary precautions to avoid any contamination of the water resulting from spills during construction or fluid leaks during operation would follow appropriate response procedures identified in a SPCC plan. Additionally, any application of herbicides to control vegetation at the site would be done in accordance with appropriate regulations to safeguard adjacent surface water quality. Herbicide use will be reviewed by the installation's Natural Resources Manager prior to application.

During the operational phase, indirect water quality impacts from stormwater runoff and runoff from panel washing could occur to on-site surface waters, as well as in the larger sub-watershed. However, the ground surface underneath the solar panels would be primarily pervious and would consist of maintained herbaceous vegetation. The wash water would evaporate off the solar panel surfaces into the air and also run off into the soil, contributing to a small amount of operational runoff each year. Areas of the site with modified perviousness (*i.e.*, compacted soil areas and areas associated with solar PV panel support structures) would be addressed through the implementation of long-term BMPs and stormwater management design. Thus, impacts on surface waters and water quality would be minor and not significant.

The co-located access road and interconnection line ROW from the array to Fuller Road would be cleared of woody vegetation and would be graded and trenched along the route for the interconnection line. The interconnection line along Fuller Road to the existing utility company substation would be within an existing cleared ROW.

Direct impacts on streams would be minimized where possible through route alignment or utilizing aboveground sections where crossing the streams. Additionally, excavation would be required for the installation and erection of the few wood or concrete monopoles that may be needed. Assumptions for the installation of the wood or concrete monopoles include holes approximately 4 to 6 feet in diameter that would be excavated via drill, placement of the pole directly into the hole, and backfilling with either native soil or engineered material. An area with a circumference of approximately 19 feet would be disturbed at each pole-installation location. If any poles must be installed at an angle in the line, the pole may be required to have a concrete foundation. These foundations would be assumed to be no more than 12 feet in diameter and would be filled with reinforced concrete. If there were to be direct impacts that could not be avoided through alignment revisions or other actions, the permitting process under Section 404 of the CWA would be initiated by the utility or developer prior to construction.

In summary, implementation of the proposed action would have minimal impacts on surface waters. In addition, adherence to regulations, permits, BMPs, and design measures would reduce impacts further. As a result, impacts would not be significant.

4.8.1.2 Wetlands

The proposed array and ancillary facilities within the boundary of the proposed site would be situated to avoid excavation and filling of wetlands. However, trees would be cleared within wetlands to minimize potential shading of panels resulting in minor impacts on wetlands. Trees would be either cut and left in

place or cut and pulled out, minimizing ground disturbance to the extent possible. Minor indirect impacts in the form of erosion and sedimentation could temporarily result from construction activities. However, these impacts would be minimized by the maintenance of a 30-foot buffer around field-delineated wetlands during construction activity. Any potential indirect water quality impacts also would be reduced using BMPs, as discussed above, to minimize impacts on surface water. Because there would be no direct impact and BMPs would be used to control indirect impacts, no significant impacts on wetlands would occur.

Impacts from trenching would be minimized by the developer where possible through route alignment or use of aboveground distribution lines in certain locations. Along the proposed interconnection line, there is an approximately 200-foot segment of wetland that would be avoided.

If there would be direct impacts that cannot be avoided through alignment revisions or aboveground segments, the permitting process under Section 404 of the CWA would be initiated. As part of the permitting process, the developer would be required to coordinate wetland mitigation plans with the USACE. Section 404 of the CWA authorizes the USACE to issue permits regulating the discharge of dredged or fill materials into waters of the U.S., including wetlands. The USACE and the EPA have issued regulations governing compensatory mitigation for authorized impacts on wetlands; these are codified in 40 CFR Part 230 as the Final Rule for Compensatory Mitigation for Losses of Aquatic Resources. Compensation requirements typically vary based on the quality of the impacted wetland communities. Specific mitigation requirements for future development projects would be determined in coordination with the USACE Mobile District, if necessary.

Clearing trees within wetlands would result in minor direct impacts; however, all project infrastructure would be located outside of the wetland boundaries, which would minimize the amount of direct impact (i.e., excavation and filling) on the wetlands. Indirect impacts on wetlands, including stormwater discharges or sedimentation, would be minimized. Associated BMPs would further reduce indirect impacts. If necessary, a Section 404 permit would be obtained with appropriate mitigation. Compliance with permit conditions as well as implementation of BMPs would minimize impacts on nearby wetlands. As a result, wetland impacts would not be significant.

4.8.1.3 Groundwater

Depths to the water table and/or saturated zone at the proposed site and along the proposed access road/interconnection line ROW vary from 18 inches to 24 inches below ground surface. Burying the interconnection lines would necessitate construction in these zones. If pole footings were to be used, they would require a depth of 4 feet to 6.5 feet below ground surface. Construction associated with the installation of the solar PV array pole foundations and the potential installation of underground connecting cables would also extend below ground surface to a depth that would directly impact the underlying water table. Additionally, installing the wooden or concrete monopoles for the interconnection line, if required, would require excavation of holes for the embedment of those structures. The developer or contractor would be required to use standard dewatering techniques, to follow the erosion and sediment control plan, and to implement BMPs that would involve preventing erosion, selecting an appropriate discharge location, removing sediment from collected water, and preserving downgradient natural resources. The planning, design, construction, and operation of the dewatering system would be done in accordance with the *Unified Facilities Criteria (UFC) for Dewatering and Groundwater Control Manual* (DOD 2004). A dewatering system of sufficient size for the project would be identified, designed, installed, and monitored, and groundwater would be disposed of at a vegetated upland site.

Additionally, potential spills of fluids or other chemicals and hazardous materials could occur during construction. Impacts on groundwater resources would be minimized through compliance with the erosion, sedimentation, and pollution control plan, and implementation of BMPs.

Similar to surface water impacts, indirect impacts on groundwater resources could also occur during operation due to the potential for hydraulic fluid leaks and the use of herbicides. Through the implementation of an SPCCP, a stormwater management plan, and adherence to appropriate regulations for herbicide application, these impacts would be minimal.

In summary, implementation of the proposed action would result in minimal, non-significant impacts on groundwater.

4.8.1.4 Floodplains

Implementation of the proposed action within the proposed site boundary would not result in any direct impacts on floodplains because the final site plan would be expected to avoid areas located within the floodplains. However, trees would be cleared within the floodplain.

The proposed access road and co-located interconnection line are outside the floodplain. The existing interconnection line ROW crosses floodplains and would be impacted by excavation activities required during line installation and burial. Development is allowed in these areas as long as it complies with local and federal requirements. However, federal agencies have additional requirements per EO 11988, 1997, Floodplain Management (42 *Federal Register* 26951), which prohibits development in Zone A floodplains unless there is no practicable alternative. The EO requires the agency to consider alternative actions that would avoid floodplain development and provide an opportunity for early public review of any plans or proposals. If floodplain development is unavoidable, the agency must include mitigation measures in the action to minimize impacts. Under the current construction plan, development in the Zone A floodplain will be minimized to the extent practical; however, if a small portion of the floodplain is still impacted by the interconnection line ROW, mitigation measures would be taken, and the Navy would submit a Finding of No Practicable Alternative stating that no alternatives existed for the proposed construction activities within the floodplain.

4.8.2 No Action Alternative

Under the No Action Alternative, no solar PV system would be installed; therefore, there would be no changes to existing water resources conditions.

4.9 Hazardous Materials and Waste

4.9.1 Solar PV Project

4.9.1.1 Environmental Restoration Program

IRP Site 1 is located southeast of the proposed site along the west side of Rabbit Road. Any long-term monitoring and land use controls (LUCs) that are in place for IRP Site 1 are remedial actions being performed under CERCLA, but based on its location outside the proposed site boundary, there would be no disturbance.

Therefore, there would be no impacts on human and environmental health and safety related to the ER Program from implementing the proposed action.

4.9.1.2 Hazardous Waste and Hazardous Materials

Small amounts of hazardous waste such as paints, solvents, and hazardous constituents in electrical components would be generated during construction and operation of the solar PV facility, and these would be managed in accordance with RCRA and the installation's HWMP.

Any incidental spills of POL would be required to be cleaned up and addressed in accordance with EPA and MDEQ regulations for the protection of area waters as well as with the NAS Meridian SPCC Plan. If pesticides or herbicides are applied to control nuisance species and vegetation during O&M of the solar PV facility, they would be applied by trained pest control personnel following standard practices, federal and state requirements, and the installation's pest management plan.

Compliance with the regulations and requirements would ensure that there would be negligible impacts on human health and the environment related to the handling and disposition of hazardous materials and waste from implementing the proposed action. Those impacts would not be significant.

4.9.2 No Action Alternative

Under the No Action Alternative, CERCLA activities would continue at IRP Site 1 in accordance with the site management plans. There would be no significant impacts on human and environmental health and safety from continuing CERCLA activities at the IRP site. Under the No Action Alternative, no new hazardous wastes or materials would be handled or generated, and no change in human and environmental health and safety related to the handling and disposition of hazardous materials and waste would occur.

4.10 Topography and Soils

4.10.1 Solar PV Project

4.10.1.1 Topography

The developer of the solar PV system would establish the design criteria for the project, including acceptable ground slope. NAS Meridian has small areas where slopes may exceed 5 percent. Some areas may require grading to make slopes more suitable for development. Construction would include some amount of excavation, earthmoving, and grading, depending on the final design for the site and access road/interconnection ROW.

Implementation of the proposed solar PV system would therefore result in a negligible to minor impact on topography, depending upon final site design.

4.10.1.2 Soils

Construction of the solar PV system would require clearing vegetation, which would expose underlying soils to erosion and compaction.

Erosion Potential

Construction and site preparation activities for the solar PV system and interconnection facilities, which include vegetation removal, grading and/or excavating soil, would increase the potential for soil erosion. Soils on steeper slopes have greater potential for water erosion from precipitation. If trees are harvested for timber as part of clearing the vegetation, logging debris could be burned in a controlled burn, which also would expose soil to erosion by removing the organic material that covers the soil. Soils with a moderate or severe erosion hazard rating would require a higher level of water management and vegetative-cover BMPs than soils with low erosion potential. Because the proposed project would disturb more than 5 acres of land, the developer would be required to obtain a Large Construction Storm Water General Permit from the MDEQ prior to construction (MDEQ 2014). As a condition of the permit, the

developer must prepare a SWPPP. The SWPPP would identify appropriate erosion and sediment controls and stormwater BMPs to reduce erosion, sedimentation, and stormwater pollution during construction (MDEQ 2014).

NRCS has rated the soil on the proposed sites as having a low hazard for erosion by precipitation for the types of disturbance that would take place during construction. Additionally, the soils are rated within NRCS's wind erodibility groups 3 or 5, indicating moderate erodibility by wind (USDA 2015). Wind erosion can be controlled by maintaining a continuous vegetative cover on the surface of the soil. Although maintaining constant groundcover is not always possible during construction, wind erosion can be avoided or reduced by minimizing the size of the land areas that are cleared at one time, limiting the amount of time that the soils would be exposed after clearing, providing windbreaks, or a combination of these BMPs. Revegetation of the site following construction would decrease the potential for both water and wind erosion.

Given the flat to gently sloping conditions of the proposed site, construction of the solar PV system would be completed with only minimal grading and earth-moving. Soil erosion or loss of topsoil can be minimized by limiting the time soil would be exposed to the forces of erosion, quickly and effectively establishing suitable vegetative cover, avoiding the steeper areas of the site, and adhering to the SWPPP. Timely revegetation of the disturbed areas after construction would protect soil from erosion. The site soils have very good ability to hold water (USDA 2015).

Operation of a solar PV facility would expose soil to erosion from precipitation and periodic washing of the panels. BMPs that minimize soil erosion during operation would consist of maintenance of vegetative cover and stormwater management design.

Hydric Soils

Soils that remain saturated at or near the surface for sufficient periods of the year during the growing season, creating anaerobic conditions, are designated as hydric soils. The wet conditions associated with hydric soils may limit construction activities, *e.g.*, excavating and moving heavy equipment, and hydric soils may require special measures during construction to overcome limitations of the saturated soil. Limitations may include a high water table or low strength for supporting construction equipment and structures. Hydric soils are often associated with wetlands.

All soils at the project site are considered predominately non-hydric.

Compliance with the conditions and requirements of MDEQ's Large Construction Storm Water General Permit, as well as implementation of BMPs specified in the SWPPP, would further minimize the impacts on soils from erosion and compaction. Therefore, impacts to soils are expected to be minor and not significant.

4.10.2 No Action Alternative

Under the No Action Alternative, the land would not be leased and the solar PV system would not be constructed and there would be no change in topography and soils.

4.11 Public Safety

4.11.1 Solar PV Project

4.11.1.1 Glint and Glare

Glint and glare from solar PV systems are potential concerns for on-base aviation operations because of the potential for ocular impacts on pilots and air traffic controllers that could affect air traffic safety. Glint and glare would not be a concern for occupants of multi-story buildings that might overlook the solar PV facility because there are no multi-story buildings directly near the proposed site.

The amount of light reflected off a solar panel surface depends on two primary factors: the amount of sunlight hitting the surface and the reflectivity of the surface (FAA 2010). The solar panels used for the proposed action would be dark blue or black in color, with minimal light reflection. As discussed in the FAA's *Technical Guidance for Evaluating Selected Solar Technologies on Airports* (2010), today's solar PV panels are constructed of dark, light-absorbing materials. As a result, they reflect as little as 2 percent of the incoming sunlight, depending on the angle of the sun and assuming the use of an anti-reflective coating (which is optional and not necessarily a standard feature of all solar panels) (FAA 2010). In addition to the potential for glint and glare from the panel surfaces, other metal components that are part of solar PV systems, *e.g.*, the support poles and inverter boxes that house the electrical equipment, may reflect sunlight in the form of glint and glare.

From a study the FAA conducted of pilots and air traffic controllers at six airports where solar facilities have been operational for one to three years, the FAA concluded that significant glare is not occurring during operation of the airports or, if it is occurring, it is not creating a negative effect (FAA 2010). Another study, completed by Nellis Air Force Base and NV Energy, found that a slight potential would exist for flash glare resulting from reflected direct sunlight off of flat-plate solar PV modules and that this flash glare is similar to glare off of water but less than that produced by weathered white concrete or snow. The study concluded that pilots would be able to mitigate this flash glare by using glare shields and sunglasses, which would reduce light reflection by approximately 80 percent (U.S. Air Force 2011).

A NREL study of the impacts of siting solar PV systems at airports and airfields (NREL 2014b) cites current policy and guidance, including the potential for ocular impacts to pilots from glint and glare from the solar facilities. In addition to the FAA 2010 guidance discussed above, which is under review, two other documents address glint and glare with respect to solar facilities sited at airports. In *Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports* (78 FR 63276) (*Federal Register* 2013), the FAA and DOE established a standard for measuring the ocular impact of glint and glare from reflective surfaces, as well as thresholds for when glint and glare would impact aviation safety. The solar glare hazard analysis plot and associated Solar Glare Hazard Analysis Tool (SGHAT) are the methods recommended in the interim policy. The policy also encourages the use of the guidance and tools for non-federally obligated airports or solar energy systems adjacent to airports.

The DOD memorandum "Glint and Glare Issues on or Near Department of Defense (DoD) Aviation Operations" (Conger 2014) similarly acknowledges the FAA's conclusion that glint and glare from some solar energy systems could affect pilot vision and addresses DOD requirements for assessing it (relative to military aviation operations and mission compatibility) using the SGHAT and other methods. The DOD memorandum addresses solar PV projects that are within 2 nautical miles (2.3 statute miles) of military aviation operations, whether those projects are within or outside of installation boundaries.

The SGHAT is used to calculate the potential for after-image and eye damage, which is divided into three categories: 1) potential for permanent eye damage (retinal burn); 2) potential for temporary after-image;

and 3) low potential for temporary after-image. The FAA interim policy (*Federal Register* 2013) states that a solar energy system constructed at a federally obligated airport must meet the following standards:

1. No potential for glint or glare in the existing or planned Airport Traffic Control Tower (ATCT) cab, and
2. No potential for glare or low potential for after-image along the final approach path for any existing landing threshold or future landing thresholds as shown on the current FAA-approved airport layout plan. The final approach path is defined as 2 miles from 50 feet above the landing threshold using a standard three degree glide path.

At NAS Meridian, there are three active Class B runways (two 8,000-foot runways and one 6,400-foot runway) to the east of the proposed site. The nearest public use airport to NAS Meridian is Key Field, about 20 miles to the southwest. The NREL used the SGHAT for a glint and glare analysis of aviation operations at the larger 176-acre Rabbit Road Site at NAS Meridian (McCain Field) (NREL 2015b). The study assumed that single-axis tracking solar PV designs were used. For the solar PV facility proposed for the Rabbit Road Site, the study found no potential for glare at the ATCT at NAS Meridian and either no glare or a low potential for glare for the approach paths and flyovers studied. These results are allowable under the FAA interim policy, to which the 2014 DOD memorandum defers. The study further noted that potential impacts from glare could be reduced if pilots wore tinted visors or sunglasses during daylight use of the airfields.

During the project siting and approval process, the FAA interim policy and the 2014 DOD memorandum would continue to be consulted as appropriate. The Navy and the developer would coordinate regarding the solar PV design selected for the site and any requirements for further evaluating glint and glare for air traffic. As a result of following the siting and approval process, as well as federal policy and guidance, there would be no significant impacts on aviation-related safety associated with glint and glare from the proposed action.

The installed panels are planned to consist of dark-colored and light-absorptive materials, which would lessen any impacts. Certain measures could be used to further minimize impacts from glint and glare, such as optimizing panel placement (both in the direction the panels face and the tilt of the panels), using anti-reflective coatings on the solar panels, and using matte finishes and dark paints on metal surfaces where feasible.

4.11.1.2 Electromagnetic Fields

There are no U.S. standards for public exposure to EMF from power facilities and Mississippi also has not established such standards. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established EMF exposure guidelines for the general public (*i.e.*, anyone who is not an electrical worker). For 60 Hz electric power components (including electrical lines, inverters, and interconnection areas), the ICNIRP exposure guidelines for the general public are 4.2 kV/m for the electrical component of EMF and 2,000 mG for the magnetic component of EMF (ICNIRP 2010).

Little information is available in published literature concerning EMF measurements for solar PV facilities. Using results from a study conducted at three utility-scale solar PV facilities in Massachusetts (Tech Environmental, Inc. 2012), EMF levels were approximated for the nearest human receptor to the proposed site. The nearest human receptor would be located a half-mile south of the proposed array. According to the study, a group of two 1 MW inverters and its associated transformer would generate less than 5 V/m from the electrical field and about 1,000 mG from the magnetic field at a distance of about 5 feet from the inverter pad. EMF radiation decreases quickly with distance. If an inverter pad were to be located 50 feet from the nearest receptor (a conservative assumption because inverters service multiple

solar panels and would not likely be located near the boundary of the project site), extrapolations from the study indicate that the electrical field strength at that receptor would not be measurable and the magnetic field strength would be a maximum of 5 mG. Both of those levels would be well below the ICNIRP-recommended exposure guidelines for the general public. Potential EMF exposures to other receptors would be even lower because they would be farther away than 50 feet from an inverter pad.

The EMF levels along the edge of the 50-foot ROW for a typical 230 kV interconnection line are approximately 1.5 kV/m and 20 mG (NIEHS 2002). Both levels are below the ICNIRP-recommended exposure guidelines for the general public. Electrical lines that would be installed for the project would not exceed 230 kV; therefore, the EMF levels at the edge of a ROW for any interconnection lines installed for the project would be below the ICNIRP guidelines.

Implementation of the proposed action at the proposed site thus would have negligible direct impacts on public safety from EMF generated by electrical components associated with the proposed action, including inverters/transformers, interconnecting electrical lines, and new interconnection line. There would be no significant direct impact on public safety from EMF.

The physical presence of and/or the electromagnetic signals emanating or reflecting from the solar PV facility may affect the availability or quality of navigational and communications signals, or air traffic services needed for the safe operation of aircraft. During the project siting and approval process, the Navy and the developer would coordinate regarding the solar PV design selected for the site and any requirements for further evaluating potential electronic interference with ground-based aviation-related equipment at NAS Meridian. As a result of following a siting and approval process, as well as Navy policy and guidance, there would be no significant indirect impacts on aviation-related safety from EMF effects on ground-based aviation-related equipment.

4.11.2 No Action Alternative

Under the No Action Alternative, no solar PV system would be installed; therefore, there would be no change in public safety related to glint and glare and EMF compared with existing conditions.

5 Cumulative Impacts

5.1 Introduction

This chapter discusses the potential cumulative impacts of the proposed action with other past, present, and reasonably foreseeable actions. The CEQ regulations for implementing NEPA define a cumulative impact as:

> *The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR 1508.7).*

Cumulative impacts can result from individually minor, but collectively significant, actions that take place over time. Accordingly, a cumulative impacts analysis identifies and defines the scope of other actions and their interrelationship with the proposed action if their effects may overlap in space and time. In order to analyze cumulative impacts, a geographic region must be identified for which impacts of the proposed action and other past, present, and reasonably foreseeable future actions would be cumulatively recorded or experienced.

The focus of this cumulative impacts assessment is on military and non-military construction actions in Lauderdale and Kemper counties, Mississippi. Various sources of information were used to identify past, present, and reasonably foreseeable future actions, such as public documents, local government websites, and first-hand knowledge from NAS Meridian personnel.

5.2 Past, Present, and Reasonable Foreseeable Future Actions

To ensure an assessment of potential cumulative impacts, this analysis sought information on past, present, and reasonably foreseeable future actions, both federal and non-federal. Those actions, summarized in Table 5-1, warranted consideration due to the potential for spatial or temporal overlap of potential impacts with those of the proposed action, as analyzed in Chapter 4.

5.3 Cumulative Impacts Analysis

The timeframe for the cumulative impacts analysis is 2010 through 2021. This timeframe extends four years beyond the anticipated end of the construction period for the proposed solar PV facilities in 2017.

The resource areas that are evaluated herein for cumulative impacts are land use, utilities and infrastructure, air quality, biological resources, and water resources. The geographic area considered for cumulative impacts was determined separately for each resource. The proposed solar PV systems were assessed in combination with other actions in order to present the most conservative analysis of cumulative impacts.

5.3.1 Land Use

The geographic study area for analyzing cumulative land use impacts included NAS Meridian and the counties in which it is located, Lauderdale and Kemper counties, Mississippi.

Table 5-1 Past, Present, and Reasonably Foreseeable Actions Potentially Relevant to Cumulative Impacts

Project	Proponent	Description and Location
52.5 MW AC Solar Project	Silicon Ranch/Mississippi Power	Developer is planning to develop and operate a separate, off-base utility scale array (52.5 MW[AC]) which will be located approximately 5 miles south of the main base. The output and environmental attributes of this facility will be sold to Mississippi Power Company via a long-term power purchase agreement (PPA).
Kemper County Energy Facility	Mississippi Power	Mississippi Power constructed a new power plant utilizing coal gasification technology. Mississippi Power purchased 2,968 acres for the plant site and mining lignite to use as fuel at the plant.
ALGIX Solaplast	Algix	In November 2014, a Solaplast Plant opened in the Montgomery Industrial Park in Meridian, MS. This plant converts algae from catfish ponds into plastics. The goal is to harvest algae from 10,000 acres of catfish ponds in Meridian.
Martin Trucking	Martin Trucking	Martin Trucking is planning to construct a new facility in Kemper County.
Fresenius Medical Clinic	Fresenius Medical Clinic	A new six-station dialysis clinic was opened in April 2014 in Dekalb, Kemper County, Mississippi.
Bridge Replacement	Mississippi Department of Transportation (MDOT)	MDOT is conducting an engineering study to replace the bridge at SR 397 between SR 16 and the Winston County line at Ditch Creek (Bridge nos. 13.4 and 13.9) in Kemper County, Mississippi.
Bridge Replacement	MDOT	MDOT has a planned bridge replacement project at SR 493 in Lauderdale County, Mississippi.
Mill and Overlay	MDOT	MDOT is conducting a mill and overlay project on I-20 from the Newton county line to the I-59 split in Lauderdale County, Mississippi.
Mill and Overlay	MDOT	MDOT is conducting a mill and overlay project on I-59 from I-20 split to 65th Avenue Bridge in Lauderdale County, Mississippi.
Mill and Overlay	MDOT	MDOT is conducting a mill and overlay project on US-11 from I-59 to Arundel Road in Lauderdale County, Mississippi.

Sources: Mississippi Power 2015; Algix 2015; Kemper County Economic Development Authority 2015; Kemper County Messenger 2014; MDOT 2014.

As a result of the proposed action, the existing on-base land use would change from forested areas used for silviculture and military morale, welfare, and recreation recreational use (*i.e.*, hunting) to utilities and infrastructure use for a solar PV system. The proposed action would result in land use changes at NAS Meridian because the project site would be converted from undeveloped to developed land. The proposed project would be consistent with Navy policies for on-base land use and the existing master plan. The majority of the adjacent land uses located off-station are managed forest land and agriculture with scattered rural residential areas. No off-station land use impacts would be expected on these land uses. As a result, the proposed action would not result in any significant impacts to land use.

The non-transportation related projects included in Table 5-1 have been assumed to be associated with a change in land use. As discussed in Section 3.2.2, Lauderdale and Kemper counties do not have a land use plan for the unincorporated portions of the county, nor are lands subject to any zoning ordinances. However, two 52 MW solar projects, the Algix Solaplast (Meridian) and the Fresenius Medical Clinic (Dekalb) would have been required to go through a local planning review that would have identified recommendations for measures to implement these projects consistent with land use goals.

Based on the factors noted above, the proposed action, when considered with the past, present, and reasonably foreseeable actions listed in Table 5-1, could have long-term changes and potential cumulative impacts on land use. On-base projects would be consistent with Navy land use policies and the master plan. Where off-base planning documents and regulations exist, development in those areas would be consistent with local land use goals and compatible with surrounding land uses or future land uses. While changes in land use would occur under this proposed action and the proposed projects listed in Table 5-1, no significant cumulative impacts on land use would occur because the projects would be consistent with Navy or local land use planning goals.

5.3.2 Utilities and Infrastructure

The geographic study area for analyzing utilities and infrastructure includes NAS Meridian and the counties in which they are located, Lauderdale and Kemper counties, Mississippi.

5.3.2.1 Electrical Distribution System

Development of the solar PV system would decrease the use of grid-supplied electricity and increase the use of renewable energy. If the solar PV facilities would be constructed at all of the proposed sites, approximately 6 MW(DC) of electricity capacity would be generated.

The amount of electricity used at NAS Meridian would not change as a result of the proposed action. All electricity generated by the solar PV system would replace electricity that would otherwise be generated elsewhere on the grid. Therefore, electrical energy that is currently being generated elsewhere and transported to NAS Meridian would be available for other users, resulting in a negligible beneficial impact on the electrical supply. The increase in annual electricity generation from the operation of the solar PV system would represent an increase of less than 0.1 percent of all electricity generation in the state.

Construction and operation of the solar PV system would have no impact on the capacity or functionality of the existing electrical distribution infrastructure because the infrastructure would be newly constructed or upgraded to accommodate the new facilities.

Of the projects identified in Table 5-1, the Kemper County Energy Facility, Martin Trucking, Algix Solaplast, and the Fresenius Medical Clinic would be associated with demands on the regional electrical supply and grid network and would have cumulative impacts on the regional electrical distribution because these projects (and others) would present additional load on Mississippi Power's existing

network. However, the construction of the off-base solar array would increase power capacity for existing and future uses on the regional electrical supply and grid network. Because the electricity supplied as a result of the proposed action would be fed into the grid, the proposed action would help offset the cumulative impacts of the other proposed projects requiring electricity.

Based on the analysis above, cumulative impacts on the electrical supply and system would be negligible.

5.3.2.2 Stormwater

The geographical study area for analyzing stormwater includes NAS Meridian and Lauderdale and Kemper counties.

Operation of the solar PV system could result in the need for new stormwater conveyance systems at the site, depending on the final design. New impervious surface would result, primarily from the construction of concrete pads to hold inverters/transformers, control buildings, and other electrical equipment. A new access road would be gravel, and the area underneath the solar panels would be vegetative cover. As a result, both would be pervious and would not likely contribute to stormwater runoff. Through compliance with state and EISA regulations, coupled with implementation of permanent BMPs, impacts on stormwater would be further reduced.

State and local permits and regulations pertaining to stormwater management would be adhered to for the projects identified in Table 5-1. Similarly, local ordinances for stormwater management for the completed Algix Solaplast and Fresenius Medical Clinic projects would have been implemented. For the proposed 53 MW off-base solar project, more than 200 acres may be disturbed. Through the construction permitting process, the project design would require compliance with state regulations Therefore, cumulative impacts on stormwater management could occur but would not be significant due to adherence to permit conditions and use of BMPs.

5.3.3 Air Quality: GHG Emissions and Climate Change

The geographic study area for analyzing cumulative impacts from other projects on GHG emissions and climate change consists of NAS Meridian Lauderdale and Kemper counties.

GHG emissions occur locally, but GHG impacts and climate change are both global in scale and cumulative over time. The proposed action is one of the beneficial activities being implemented by the Navy to address climate change and reduce GHG emissions. The Navy's renewable energy goals, described in Chapter 1, address the use of fossil fuels as one of the causes of climate change, thereby addressing renewable energy, energy reductions, and GHG reduction goals established by current Navy and federal guidance and requirements. By increasing renewable energy generation at NAS Meridian, the proposed action would reduce regional GHG emissions and could have a beneficial impact on climate change. Therefore, the proposed action would not contribute to cumulative negative impacts on climate change and could partially offset any negative impacts from the projects listed in Table 5-1.

5.3.4 Biological Resources

The geographical study area for analyzing biological resources includes NAS Meridian and Lauderdale and Kemper counties.

Site preparation (*e.g.*, clearing, timber harvesting, grubbing, burning, and grading) and installation of the solar PV facilities and interconnection ROW would result in long-term, permanent impacts on vegetative communities within the project site. Impacts on vegetative communities via removal of approximately 40 acres of forested land would be moderate; however, the majority of that is evergreen forest that is managed for timber and subject to periodic clearing.

Direct impacts on vegetation also would result in displacement of wildlife and the permanent removal of suitable habitat for various wildlife species. Loss of habitat may cause the migration of wildlife to other areas with suitable habitat, resulting in a decrease in the number of species in the area of the proposed site. The Navy concluded that implementation of the solar PV system would have no effect on federally listed species.

After construction, revegetation would be coordinated with and approved by the appropriate installation personnel and would likely comprise native, maintainable grasses within the proposed solar PV facility sites and along the interconnection ROW.

The proposed action, when taken into consideration with other past, present, or reasonably foreseeable projects that would not be located in an existing, disturbed footprint may contribute to cumulative impacts on vegetative habitats within the vicinity of NAS Meridian. Some of the projects listed in Table 5-1 may occur on greenfield sites and therefore would include habitat loss, particularly forested areas, while other projects would likely occur on previously disturbed and/developed sites. Therefore, the proposed action, when taken into consideration with the aforementioned past, present, and reasonably foreseeable future actions could contribute to cumulative impacts on vegetation and wildlife in the region. However, due to large areas of undeveloped lands remaining in Lauderdale and Kemper counties, potential cumulative impacts on biological resources would not be significant.

5.3.5 Water Resources

The geographic study area for evaluating cumulative impacts on water resources encompasses the watershed in which the proposed site is located, the Sucarnoochee River watershed and the Bogue Chitto River watershed.

Construction of the ground-mounted solar arrays could result in indirect impacts on surface waters and water quality. Clearing, excavation, and grading of the proposed site, in accordance with the specifications of the project design, would have to take place before construction of the solar array. Foundations for the solar arrays would require that posts be driven into the ground or, if pole footings are used, excavation below ground surface. Excavation for the burial of underground electrical lines also would be necessary. These excavation activities would have additional potential to temporarily increase surface erosion and sedimentation at the site.

Any impacts on water resources resulting from construction of the project would be temporary and minimal. Soils would be subjected to erosion as a result of construction, and the eroded soil could potentially enter the watershed via nearby surface waters; however, impacts would be minor. BMPs would be used during construction and operation of the project to further reduce impacts on water resources. As a result, implementation of the proposed action would result in minimal impacts on surface waters and water quality and groundwater resources.

The proposed action, when taken into consideration with other past, present, or reasonably foreseeable projects may contribute to cumulative impacts on water resources within the Sucarnoochee River watershed and the Bogue Chitto River watershed. In particular, the 53 MW solar project, bridge replacement project by MDOT, and the Kemper County Energy Facility would impact water resources. However, all of the projects would require the developers to obtain appropriate permits. Compliance with the conditions and requirements of the permits, as well as implementation of BMPs would further decrease the magnitude of impacts on water quality from stormwater runoff. Similarly, the developers or contractors would be required to use standard dewatering techniques and to follow erosion and sediment control plans and BMPs that would prevent erosion. Therefore, the proposed action, when taken into consideration with the past, present, and reasonably foreseeable future actions may contribute to

cumulative impacts on water resources. However, adherence to permitting requirements and the implementation of BMPs during construction would further reduce potential cumulative impacts on water resources and would not be significant.

6 Mitigation Measures

Construction of the proposed solar PV project would be conducted in accordance with federal and state regulations, permits, Navy plans and policies, and the BMPs discussed in Chapter 4. Mitigation measures that have been developed specifically for implementation of the proposed action independent of BMPs and regulatory requirements are presented in Table 6-1.

Table 6-1 Summary Table of Mitigation Measures

Description of Mitigation Measure	Anticipated Benefit	Criteria for Evaluating Efficacy	Description of How Mitigation Measure would be Implemented	Responsible Party	Estimated Completion Date
Cultural Resources					
In the event of an inadvertent discovery of previously undocumented historic/archaeological resources during any phase of the project, the utility company or subcontractor shall cease work in the immediate vicinity and contact the installation natural/cultural resources manager for further instructions.	Avoid impacts on previously undocumented archaeological or historic resources	No adverse impacts on archaeological/historic resources	Installation natural resources or cultural resources manager is contacted in the event of an inadvertent discovery	Solar developer/utility company	Primarily, actions will be completed during site preparation and construction phase, but measures will extend through the lease period

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A Section 106 Consultation

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
JACKSONVILLE, FL 32212-0030

5090
Ser EV23/290
August 3, 2015

Mr. Greg Williamson
Review and Compliance Officer
Mississippi Department of Archives and History
P.O. Box 571
Jackson, MS 39205-0571

SUBJECT: PROPOSED RENEWABLE ENERGY PROJECTS, NAS MERIDIAN, MISSISSIPPI

The Navy Renewable Energy Program Office (REPO) is proposing to lease land for the installation of photovoltaic (PV) array facilities at Naval Air Station (NAS) Meridian in Lauderdale County, Mississippi and at Joe Williams Field in Kemper County, Mississippi. This letter serves to initiate consultation with your office in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, to ensure that potential effects on historic properties are taken into account at the earliest planning opportunity. Please see the enclosed Project Description for a more complete explanation of the REPO effort at NAS Meridian and at Joe Williams Field.

The project includes the installation of PV solar panel arrays on up to 130 acres at NAS Meridian and up to 438 acres at Joe Williams Field. The Area of Potential Effects (APE) for this project is considered to be the footprint of the proposed arrays, any staging areas for materials and equipment, and the location of any proposed electrical transmission lines and associated engineering facilities on Navy lands. The proposed arrays are all in locations that have been surveyed previously for archaeological resources in consultation with your office. No historic properties have been identified within any of these areas.

As described in the attached Project Description, no significant architectural resources are located within the footprint or view shed of the proposed Rabbit Run array area. A recent survey of the Joe Williams Field proposed array area has indicated that no significant architectural resources are located within or adjacent to the APE.

5090
Ser EV23/290
August 3, 2015

The Department of the Navy has concluded that the implementation of this project will incur no effects on historic properties. We ask for your concurrence with this finding pursuant to the terms of Section 106 of the National Historic Preservation Act of 1966 and its implementing regulations found at 36 CFR 800: *Protection of Historic Properties*.

If you require additional information regarding these projects, please contact Dr. John Calabrese, NAVFAC SE Archaeologist, at commercial: (904) 542-6985 or by email: john.calabrese@navy.mil. Formal correspondence can be addressed as follows:

Commanding Officer
Naval Facilities Engineering Command Southeast
ATTN: Mr. John Calabrese (EV23)
P.O. Box 30A, Building 903
Jacksonville, FL 32212-0030

Thank you for supporting the REPO action in Mississippi.

Sincerely,

C. R. DESTAFNEY, PE
Environmental Business Line Coordinator
By direction of the Commanding Officer

Enclosure: REPO Project Description, NAS Meridian

Copy to:
Commanding Officer, MAS Meridian

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
JACKSONVILLE, FL 32212-0030

5090
Ser EV23/292
August 3, 2015

Mr. Kenneth H. Carleton
Tribal Archaeologist
Mississippi Band of Choctaw Indians
P.O. Box 6010
Philadelphia, MS 39350

SUBJECT: PROPOSED RENEWABLE ENERGY PROJECTS, NAS MERIDIAN, MISSISSIPPI

The Navy Renewable Energy Program Office (REPO) is proposing to install photovoltaic (PV) array facilities at Naval Air Station (NAS) Meridian in Lauderdale County, Mississippi and at Joe Williams Field in Kemper County, Mississippi. This letter serves to initiate consultation with your office in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, to ensure that potential effects on historic properties are taken into account at the earliest planning opportunity. Please see the attached Project Description (Enclosure 1) for a more complete explanation of the REPO effort at NAS Meridian and at Joe Williams Field.

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The Department of the Navy has concluded that the implementation of this project will incur no effects on historic properties and is seeking concurrence with this finding with the Mississippi SHPO. Navy records reflect that no sites of religious or cultural importance have been identified in the APE that may be esteemed by your tribe. If this is not the case, please inform us at your earliest convenience if such sites are within or proximal to the project area. The Navy will consult

with your tribe in the event that sites of religious or cultural importance are identified.

If you require additional information, please contact Dr. John Calabrese, NAVFAC SE Archaeologist, at commercial: (904) 542-6985 or by email: john.calabrese@navy.mil. Formal correspondence can be addressed as follows:

Commanding Officer
Naval Facilities Engineering Command Southeast
ATTN: Mr. John Calabrese (EV23)
P.O. Box 30A, Building 903
Jacksonville, FL 32212-0030

Thank you for supporting the REPO action in Mississippi.

Sincerely,

C. R. DESTAFNEY, PE
Environmental Business Line
Coordinator
By direction of the
Commanding Officer

Enclosure: REPO Project Description, NAS Meridian

Copy to:
Commanding Officer, NAS Meridian

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
JACKSONVILLE, FL 32212-0030

5090
Ser EV23/296
August 5, 2015

Ms. B. Cheryl Smith
Chief, Jena Band of Choctaw Indians
P.O. Box 14
Jena, LA 71342

SUBJECT: PROPOSED RENEWABLE ENERGY PROJECTS, NAS MERIDIAN, MISSISSIPPI

The Navy Renewable Energy Program Office (REPO) is proposing to lease land for the installation of photovoltaic (PV) array facilities at Naval Air Station (NAS) Meridian in Lauderdale County, Mississippi and at Joe Williams Field in Kemper County, Mississippi. This letter serves to initiate consultation with your office in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, to ensure that potential effects on historic properties are taken into account at the earliest planning opportunity. Please see the enclosed Project Description for a more complete explanation of the REPO effort at NAS Meridian and at Joe Williams Field.

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If you require additional information, please contact Dr. John Calabrese, NAVFAC SE Archaeologist, at commercial: (904) 542-6985 or by email: john.calabrese@navy.mil. Formal correspondence can be addressed as follows:

Commanding Officer
Naval Facilities Engineering Command Southeast
ATTN: Mr. John Calabrese (EV23)
P.O. Box 30A, Building 903
Jacksonville, FL 32212-0030

Thank you for supporting the REPO action in Mississippi.

Sincerely,

C. R. DESTAFNEY, PE
Environmental Business Line
Coordinator
By direction of the
Commanding Officer

Enclosure: REPO Project Description, NAS Meridian

Copy to:
Commanding Officer, NAS Meridian

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND SOUTHEAST
JACKSONVILLE, FL 32212-0030

5090
Ser EV23/297
August 5, 2015

Dr. Ian Thompson
Tribal Historic Preservation Officer
The Choctaw Nation of Oklahoma
P.O. Box 1210
Durant, OK 74702-1210

SUBJECT: PROPOSED RENEWABLE ENERGY PROJECTS, NAS MERIDIAN, MISSISSIPPI

The Navy Renewable Energy Program Office (REPO) is proposing to lease land for the installation of photovoltaic (PV) array facilities at Naval Air Station (NAS) Meridian in Lauderdale County, Mississippi and at Joe Williams Field in Kemper County, Mississippi. This letter serves to initiate consultation with your office in compliance with Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, to ensure that potential effects on historic properties are taken into account at the earliest planning opportunity. Please see the enclosed Project Description for a more complete explanation of the REPO effort at NAS Meridian and at Joe Williams Field.

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Commanding Officer
Naval Facilities Engineering Command Southeast
ATTN: Mr. John Calabrese (EV23)
P.O. Box 30A, Building 903
Jacksonville, FL 32212-0030

Thank you for supporting the REPO action in Mississippi.

Sincerely,

C. R. DESTAFNEY, PE
Environmental Business Line
Coordinator
By direction of the
Commanding Officer

Enclosure: REPO Project Description, NAS Meridian

Copy to:
Commanding Officer, NAS Meridian

REPO PROJECT DESCRIPTION, NAS MERIDIAN

In October 2009, the Secretary of the Navy (SECNAV) established renewable energy goals for the Navy's shore-based installations to meet by 2020. These goals include: (a) the procurement or production of at least 50 percent of the total quantity of electric energy consumed by shore-based facilities and activities each fiscal year from alternative energy sources, and; (b) 50 percent of Navy installations will be net zero (i.e., over the course of a fiscal year, an installation matches or exceeds the electrical energy it consumes ashore with electrical energy generated from alternative energy sources). These goals are consistent with renewable energy policies being developed throughout the federal government and contained in numerous executive order and statutes, including Executive Order (EO) 13514, the Energy Policy Act of 2005 (EPAct) (42 U.S.C. 15852), and Title 10 U.S.C. § 2911(e).

In December 2013, President Obama signed a presidential memorandum that requires federal agencies to produce or procure from renewable sources 20 percent of electricity consumed by facilities by FY 2020 and each fiscal year thereafter, an amount that represents a more aggressive goal than under the EPAct or 10 U.S.C §2911(e). The memorandum also establishes interim goals of 10 percent by 2015, 15 percent by 2016, and 17.5 percent by 2018. The memorandum states that the renewable energy consumption target be achieved by installing Government-funded renewable energy projects at federal facilities, or contracting for energy that includes the installation of a renewable energy project on-site at a federal facility.

In support of the EPAct and 10 U.S.C. §2911(e) renewable energy goals, SECNAV established the "1-Gigawatt (GW) Initiative", named for the amount of renewable energy generation capacity to be deployed by 2020, either on or near Navy installations. This goal was initially stated in the President's 2012 State of the Union Address and is consistent with the alternative energy goal presented in 2009 by SECNAV and the 2013 presidential memorandum.

In keeping with energy goals established by the White House and the Department of Defense, the Navy proposes to establish a renewable-energy facility at NAS Meridian and at its outlying Joe Williams Field in Lauderdale and Kemper Counties, Mississippi.

NAS Meridian Project Overview

NAS Meridian is located 15 miles northeast of downtown Meridian,

Mississippi, and 10 miles west of the Mississippi-Alabama state line. Situated in the North Central Hills region of the state, the main base of NAS Meridian occupies 8,061 acres. In addition to the main base, the NAS Meridian complex includes NOLF Joe Williams and Target Range SEARAY. NOLF Joe Williams occupies 1,255 acres, and Target Range SEARAY occupies 654 acres. NAS Meridian is located in the northeastern portion of Lauderdale County and southeastern Kemper County; NOLF Joe Williams is 18 miles northwest in northwestern Kemper County (Figure 1). Target Range SEARAY is located farther north in Noxubee County.

Construction of NAS Meridian began in 1957 and was first commissioned by the Navy in 1961 as a Naval Auxiliary Air Station (NAAS). The airfield was named McCain Field in honor of Admiral John S. McCain, Sr. In July 1961, Training Squadron Seven (VT-7) was relocated to the installation and became the first squadron to arrive at NAAS Meridian. By July 1968, the station had become a full Naval Air Station; in October 1982, the station was upgraded to a Major Shore Command; and in 1984, NAS Meridian was one of 15 installations chosen for the DOD Model Installation Program (CNIC 2015). Today, NAS Meridian is one of the largest air stations in the southeastern United States.

NAS Meridian's mission is to support Navy war fighters by providing premier jet strike aviation and technical training services and facilities in a safe and secure environment. NAS Meridian is one of the Chief of Naval Air Training's (CNATRA's) two jet strike pilot training bases. CNATRA oversees the Naval Air Training Command (NATRACOM) and is composed of five wings. NAS Meridian is home to TRAWING ONE, composed of squadrons VT-7 and VT-9 instructing Student Naval Aviators (SNAs) in the Boeing T-45C "Goshawk," the Navy's most advanced strike jet trainer (NAVFAC SE 2012). NAS Meridian also hosts additional training organizations that include the Naval Technical Training Center (NTTC), Marine Aviation Training Support Squadron One (MATSS-1), Regional Counterdrug Training Academy (RCTA), and the Naval Operational Support Center (NOSC).

The Navy would lease up to 130 acres at the main base at NAS Meridian at the Rabbit Road area(Figures 2 and 3) and 438 acres at NOLF Joe Williams (Figures 4 and 5) to be developed by one or more independently operated commercial power utility companies. The power utility, and possibly a third-party solar power developer, would construct and operate one or several solar facilities consisting of PV

cells that collect energy from sunlight for the production of electricity. The renewable energy thus created would feed into the commercial electrical energy grid. Land would be leased for an estimated 37 years, including 2 years for construction, 25 years of operation, and 2 five-year options. After the terms of the lease are expired, the Navy and the power utility would consider a range of options, including renewing the lease or decommissioning the facility.

Solar PV Technology

Description of the Ground-Mounted Array

Each solar array would be connected to a ground-mounted, single-axis system designed to optimize power production of the panels by ensuring proper orientation to the sun throughout the day and seasons (Figure 6). In this design, the single-axis tracking system would be used, which allows the panels to change direction to follow the sun's path throughout the day. The motor for a single-axis tracking system can be mechanical or hydraulic.

The panels would likely be constructed of glass encasing, which would be dark blue or black in color, with minimal light reflection. The highest point of the solar array for a ground-mounted solar PV system would typically not exceed approximately 10 feet above the ground surface. The panels would be approximately 5 feet wide and 3 feet long. The number of panels in each array, the type of ground-mounted system used, and the array configuration would depend on the solar power developer's final site design.

Solar PV systems generate direct current (DC) electricity, which is converted to alternating current (AC) for transmission on the electrical grid and ultimate end use in AC form. The ground-mounted solar PV arrays would require either an underground or overhead electrical line to transfer electricity to the nearest point of connection. Access to ground-mounted solar PV facilities typically would be restricted by a fence. Each solar PV facility would occupy the majority of the space contained within the fenceline. The area may include gravel access roads between rows of solar arrays and around the site perimeter for maintenance access and an operations/control building. The access road locations would depend upon final engineering design, but perimeter roads and access roads spaced between some rows of solar arrays for operation access are typical. Access road widths could vary based upon final design but generally would be 10 feet wide. The operations building would be

designed and sized based on what is appropriate for the project. This building would be used to house the project's operator and a supervisory control and data acquisition (SCADA) system that allows the operator to monitor the facility and to provide storage space for maintenance equipment. Visual barriers would be used to screen the solar PV facility from sensitive receptors such as residences and recreationists. Visual barriers would consist of existing landscape. Project power will be connected to the local electrical grid via overhead distribution lines. The overhead electric feeder lines would be installed adjacent to existing roads or utility rights-of-way. Final siting of utility lines would be reviewed by NAS Meridian personnel prior to construction.

NAS Meridian Project Locations

Rabbit Road Site

The Rabbit Road site is an approximately 130-acre forested site (see Figure 2). The site is west of Rabbit Road and south of Fuller Road. The site is relatively flat and ranges from 260 to 280 feet amsl. A drainage channel is on the western portion of the site, and on the southeastern corner of the site are ephemeral ponds that are monitored for the four-toed salamander (*Hemidactylium scutatum*). The site is dominated by loblolly pine (*Pinus taeda*) and is managed for timber production. The proposed solar array layout at the Rabbit Road site is shown in Figure 7. The power generated by the solar array will exit from the south side of the project area and will pass through Navy property and tie into the existing grid south of the installation.

Joe Williams NOLF Project Locations

SW Site

The SW site is an approximately 158-acre forested site located on NOLF Joe Williams (see Figure 3). The site is situated south of the airfield and next to the main gate for the NOLF. The site also could be accessed off-base from Allen Road. The site is relatively flat and ranges from 500 to 520 feet amsl. The central portion of the site contains a drainage channel. The site is dominated by loblolly pine (*Pinus taeda*) and is managed for timber production. The proposed solar array layout at the Joe Williams SW site is shown in Figure 8. The power generated in the NE site will pass under the existing runway in a concrete encased channel and tie into the power generated in the SW array.

NE Site

The NE site is an approximately 280-acre forested site located on NOLF Joe Williams (see Figure 4). The site is situated north of the airfield and can be accessed from off-base via Lynnville Road. The site has rolling terrain that ranges from 500 to 560 feet above mean sea level. The central portion of the site contains a drainage channel, and several ponds are located on-site. The site is dominated by loblolly pine (*Pinus taeda*) and is managed for timber production. Portions of the site have recently been clear-cut and replanted. The proposed solar array layout at the Joe Williams NE site is shown in Figure 9. The power generated at the NE array will tie into the existing grid outside of Navy property; the environmental effects analysis of any construction outside of Navy property are the responsibility of TVA.

Cultural Resources

Architectural Resources

The proposed sites of the solar PV facilities are within military installation boundaries. The two NOLF Joe Williams alternative sites are centrally located within the main property, to the east and west of the operational airfield. Overall, the land on all NAS Meridian complex alternative sites is a rolling to flat terrain used for timber production and hunting activities. There are no residential or commercial areas adjacent to any of the alternative sites. An inspection of aerial photographs and discussions with the installation Cultural Resources Manager indicate that the Rabbit Road site does not contain any architectural resources. A recent architectural survey of Joe Williams field (Attachment 1) indicates that no historic properties will be affected by the construction of the solar array at either location.

Archaeological Resources

The entirety of NAS Meridian and Joe Williams field were surveyed for archaeological resources in 1988 and 1997, as documented in the attached correspondence with the Mississippi Department of Archives and History (Attachments 2 and 3) and as documented in the 2001 Integrated Cultural Resources Management Plan for the installation. These consultations resulted in the determination that none of the identified historic archaeological sites at NOLF Joe Williams were eligible for the NRHP; no archaeological sites were identified within the proposed Rabbit Road solar array.

Cultural Resources Summary

Previous archaeological surveys and a recent architectural survey have been completed for the proposed Area of Potential Effects of the proposed project. No archaeological or architectural historic properties have been located within the footprint or viewshed of the proposed solar arrays. The Navy has therefore determined that the implementation of this project will incur no effects on historic properties.

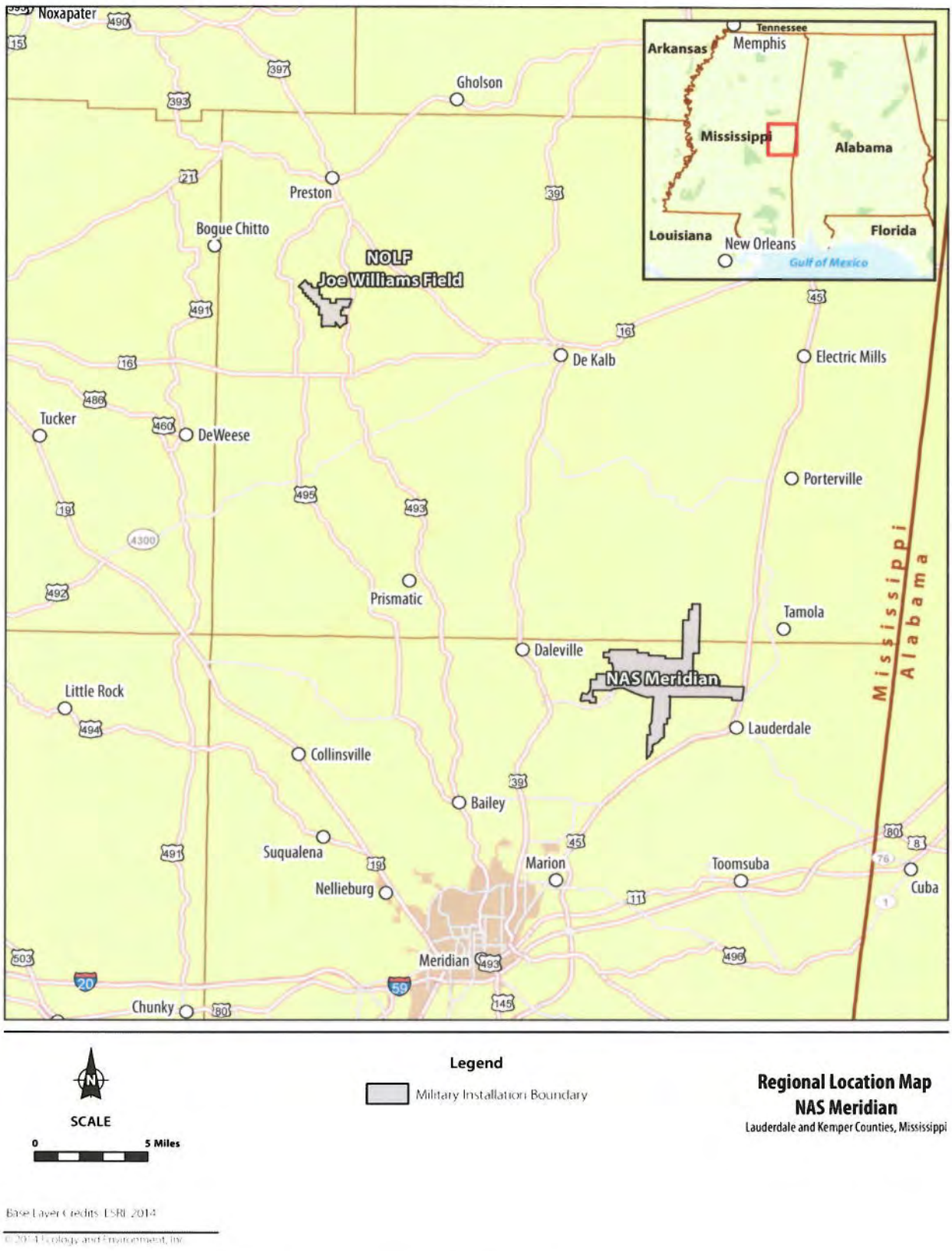


Figure 1. Location of NAS Meridian and Joe Williams Field.

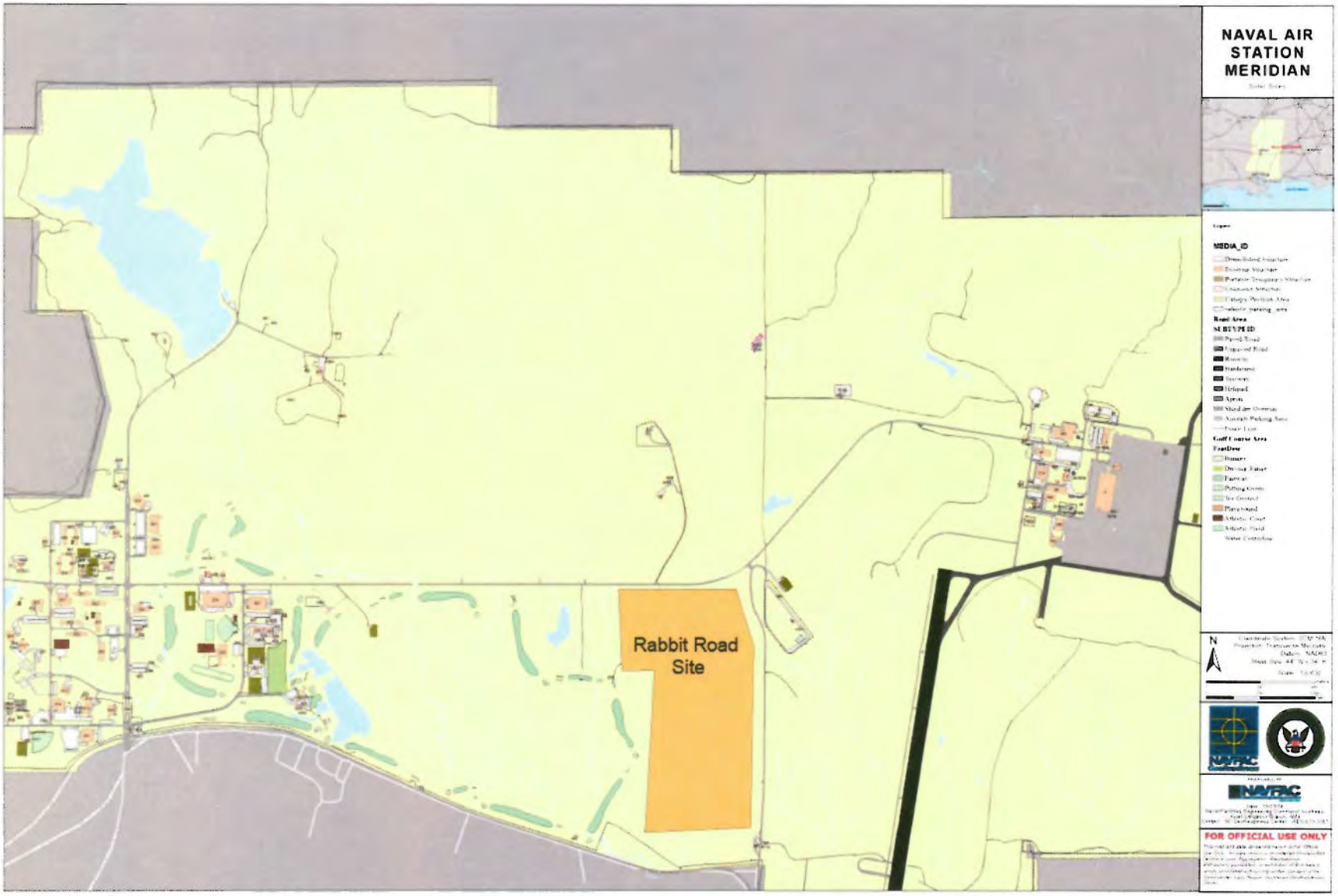


Figure 2. Location of the Rabbit Road Solar Site at NAS Meridian.



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SCALE

0 400 800 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Legend

Military Installation Boundary

Proposed Solar PV Facility Site Boundary

Figure 3

Proposed Solar PV Facility

Project Location: Rabbit Road Site at NAS Meridian

Lauderdale County, Mississippi



N

SCALE

0 400 800 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

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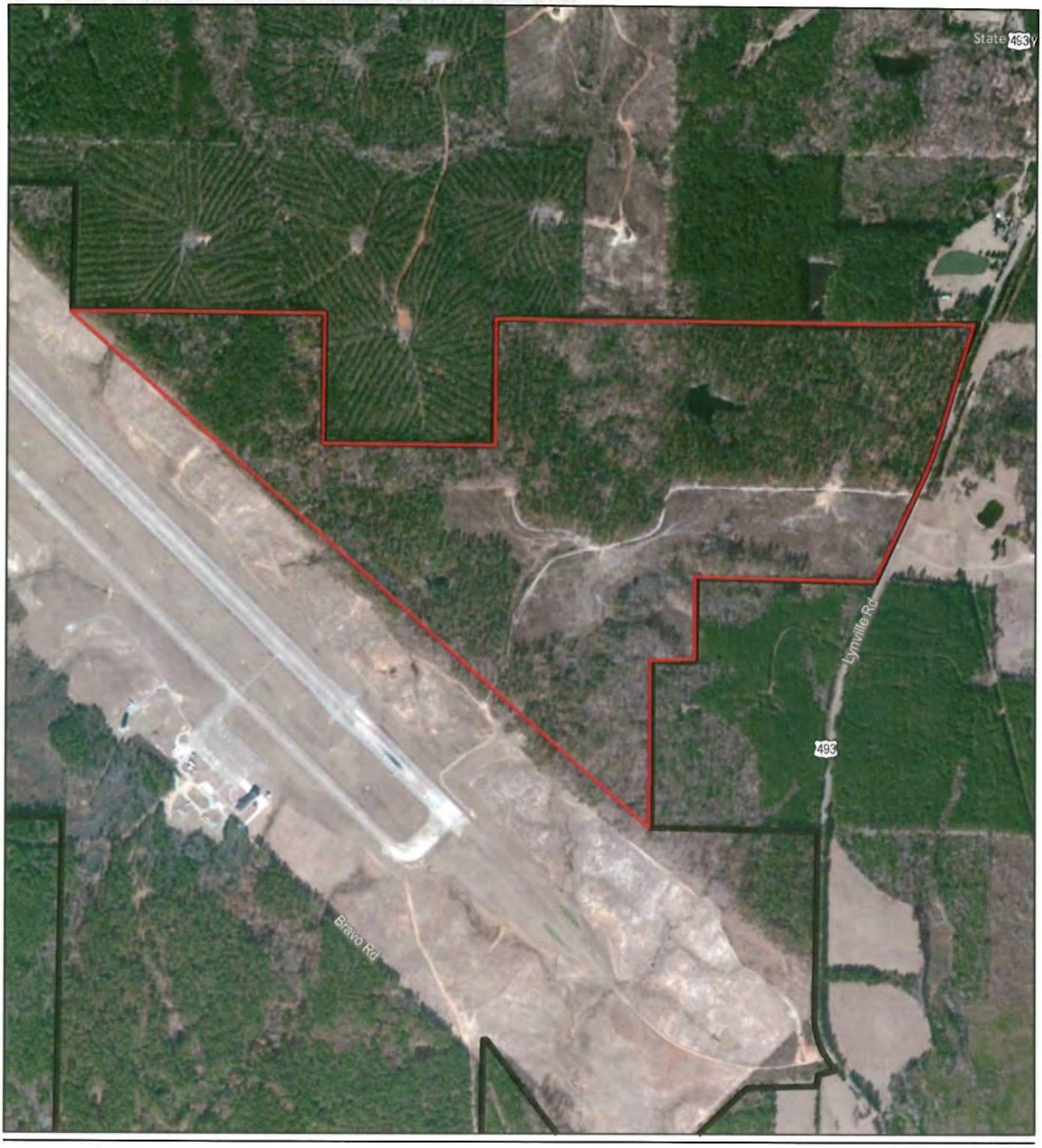
Military Installation Boundary

Proposed Solar PV Facility Site Boundary

Figure 4

Proposed Solar PV Facility Project Location: SW Site at NOLF Joe Williams

Kemper County, Mississippi



N

SCALE

0 800 1,600 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Legend

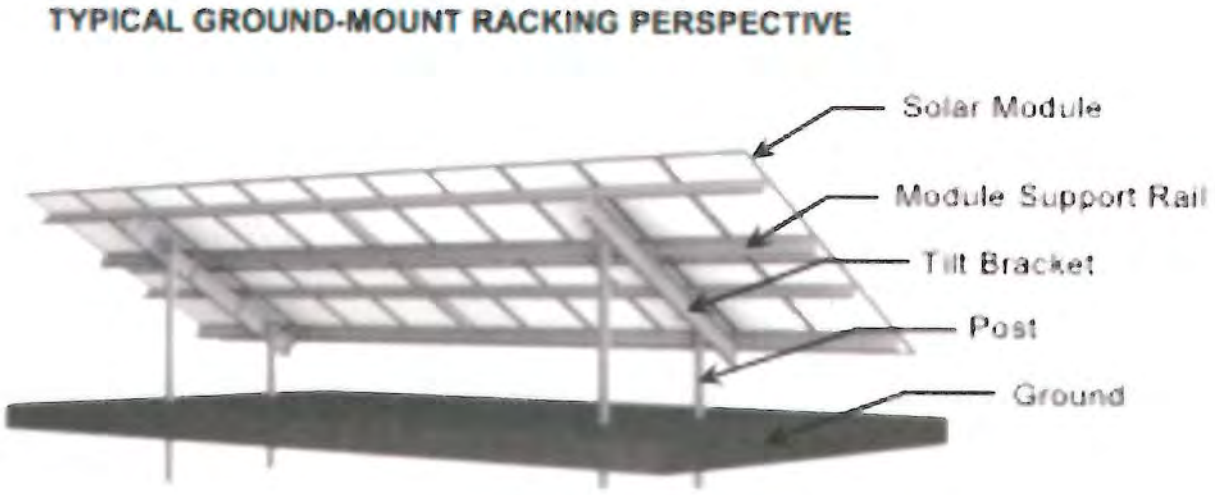
Military Installation Boundary

Proposed Solar PV Facility Site Boundary

Figure 5

Proposed Solar PV Facility Project Location: NE Site at NOLF Joe Williams

Kemper County, Mississippi



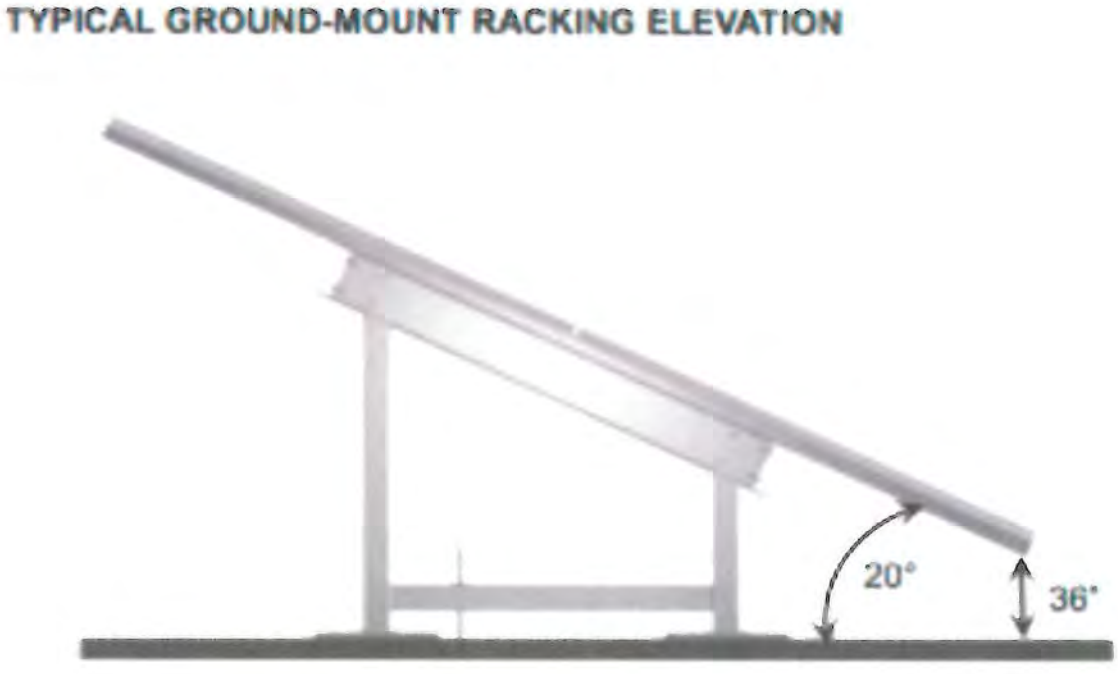


Figure 6. Solar array configuration (top); typical solar array elevation (bottom).

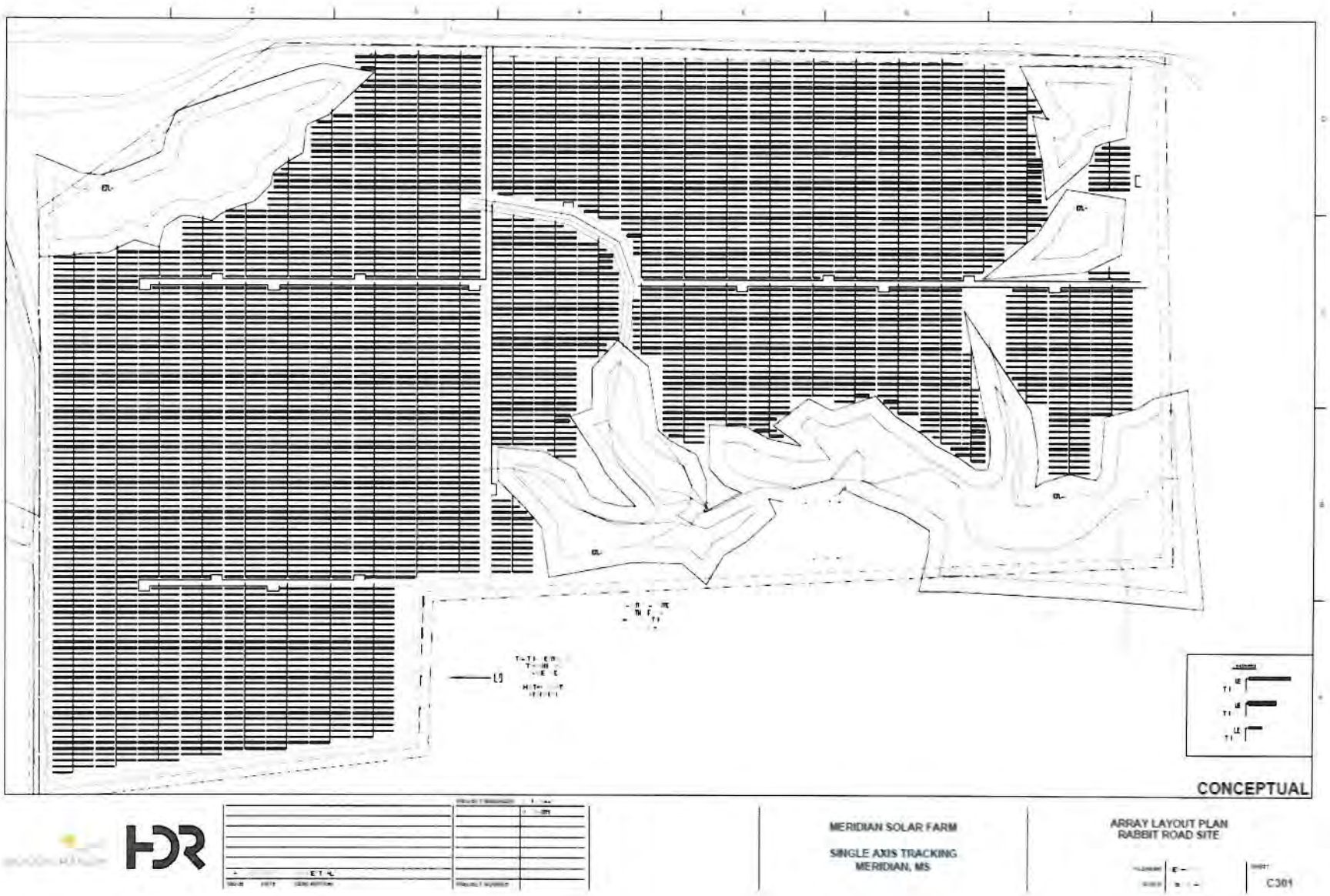


Figure 7. Proposed solar array layout at the Rabbit Road Site.

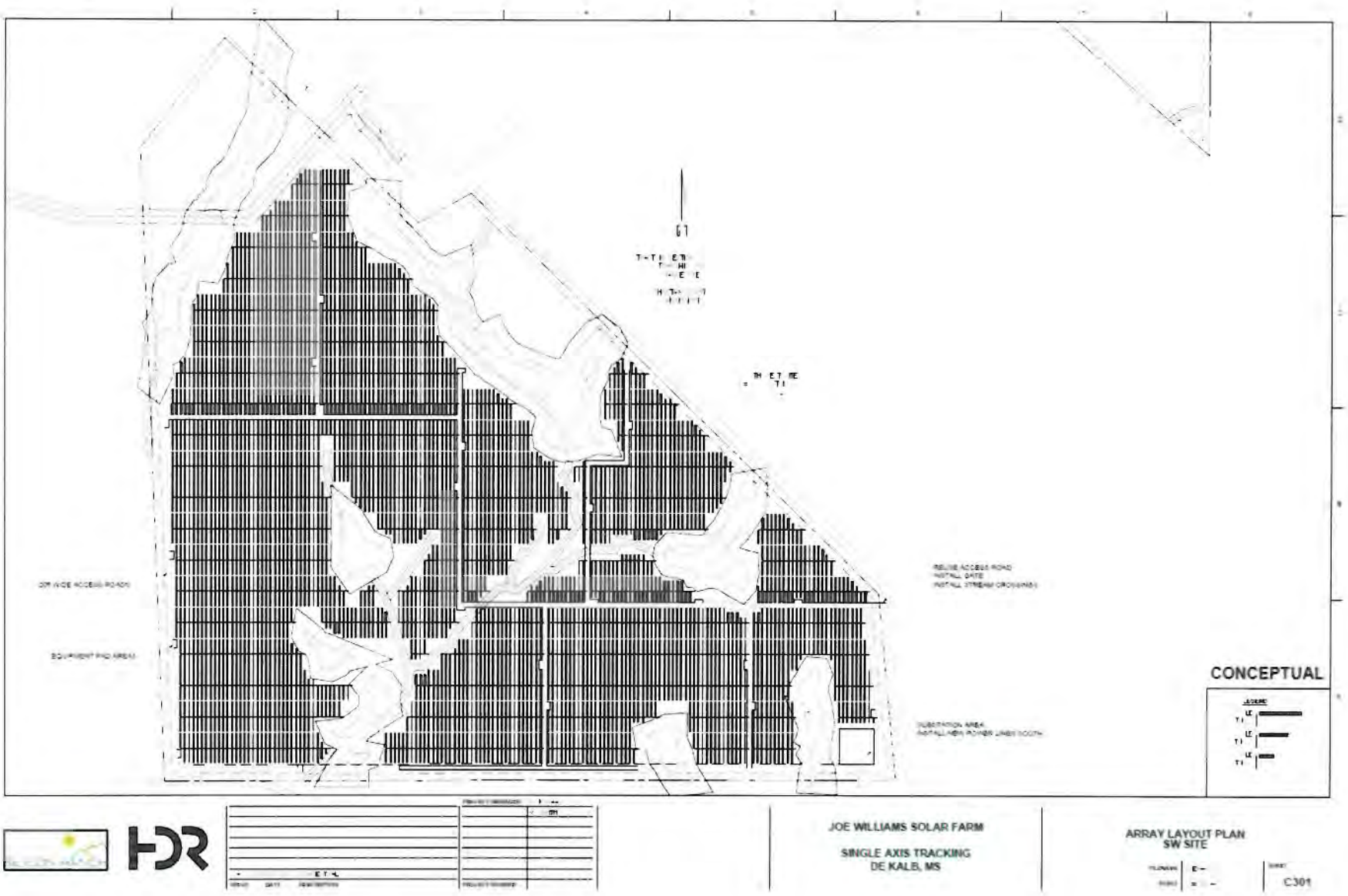


Figure 8. Proposed solar array layout at the Joe Williams SW site.



Figure 9. Proposed solar array layout at the Joe Williams NE site.

July 20, 2015

Jone Guerin
Ecology and Environment, Inc.
368 Pleasant View Drive
Lancaster, New York 14086

W. Cory Zahm, AICP
NAVFAC Atlantic
Environmental Planning Division
6506 Hampton Boulevard, Bldg A
Norfolk, Virginia 23508

RE: Final Letter Report: Navy Outlying Landing Field (NOLF) Joe Williams Built Environment Windshield Survey, Preston, Mississippi

Dear Ms. Guerin and Mr. Zahm,

SEARCH is pleased to provide the enclosed documentation resulting from a built environment windshield survey of 10 resources within and adjacent to (within a ¼-mile buffer of) two proposed sites for construction and operation of a solar photovoltaic (PV) system at Navy Outlying Landing Field (NOLF) Joe Williams (OLF Bravo) in Kemper County, Mississippi (**Figure 1; Table 1; Figures 2-7**).

Background research was collected from the SEARCH library, the internet, and Naval Air Station (NAS) Meridian. The NAS Meridian Integrated Cultural Resources Management Plan (SEARCH 2013) was researched for previous surveys of NOLF Joe Williams and built resources to be documented. Facility maps were collected from the base to determine building and structure locations. Historic aerials and United States Geological Society (USGS) maps were collected from the USGS website (http://www.usgs.gov/) to assist in determining the age and location of built resources. A review of the Mississippi Department of Archives and History website (http://www.apps.mdah.ms.gov/Public/search.aspx) was done to assist in locating previously recorded resources within the Area of Potential Effect (APE).

Fieldwork was conducted on 29 June and 30 June 2015. Based upon the background research and fieldwork, no further work was recommended for the 10 built environment resources documented. As part of the work, potential visual avoidance or mitigation measures were developed for the resources documented, including the recommendation of chain link fence slats for the fence surrounding the proposed PV sites and/or planting of eastern redcedars, a native slow-growing coniferous evergreen tree, along the proposed PV site fence line.

If you have any questions or need additional information, please feel free to contact me (geoff@searchinc.com; 352-284-9138) or Greg Hendryx (greg@searchinc.com; 904-379-8338). We all appreciate this opportunity to work with you on this exciting project.

Sincerely,



Geoffrey Mohlman
Senior Architectural Historian

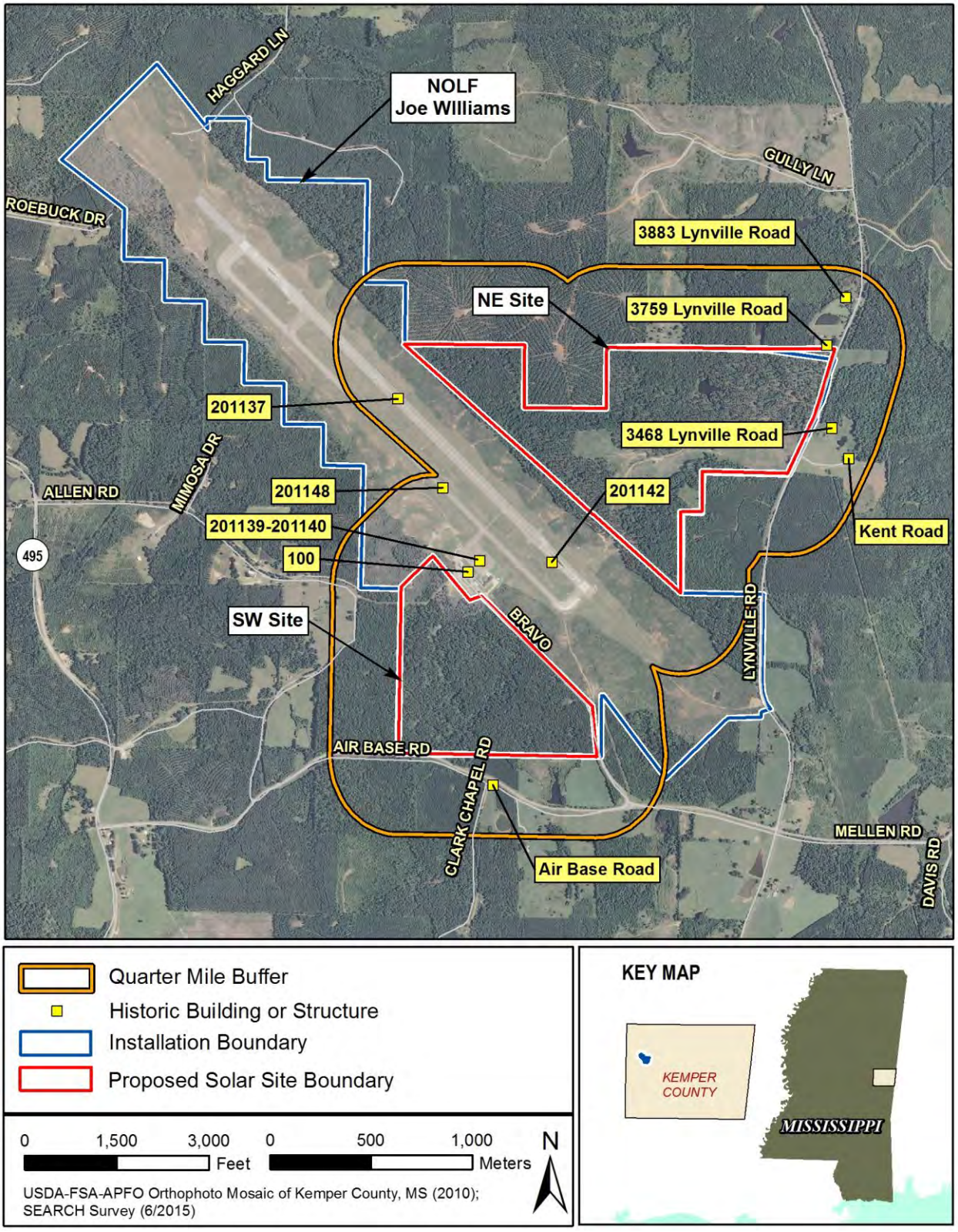


Figure 1. General vicinity map showing the location of NOLF Joe Williams and the location of built resources documented.

Table 1. Built Resources Documented for Proposed NOLF Joe Williams Photovoltaic System.

Address/Facility Number	Built Date	Name	Style	Materials	Condition	Use/Function	Modifications/Additions	Further Investigation Recommendation	Proposed PV sites visible	Potential Visual Avoidance or Mitigation Measures
100	1961	Operations Building	N/A	N/A	Nonextant	N/A	Nonextant	No further work	N/A	N/A
201137	1961	Runway-OLF Bravo	N/A	Asphalt/Concrete	Excellent	Runway	Expanded in c1971/repaved	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
201148	1961	Taxiway	N/A	Asphalt/Concrete	Excellent	Taxiway	Expanded in c1971/repaved	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
201139/201140	1961	Aircraft Parking/Aircraft Parking Apron	N/A	Asphalt/Concrete	Excellent	Aircraft Parking	Repaved	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
201142	1961	Optical Landing System	N/A	Asphalt/Concrete	Excellent	Pad for equipment	Repaved	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
201151[1]	1961	Optical Landing System	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Air Base Road[2]	C1940	N/A	Craftsman	Wood frame	Fair	Single family residence	Window replacements	No further work	No (planted pine forest blocks view)	N/A
Kent Road[2]	1962+	N/A	Ranch	Brick	Good	Single family residence	None observed	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
3468 Lynville Road	C1940	N/A	Frame Vernacular	Wood frame	Fair	Single family residence	Exterior wall fabric replacement, possibly for a window or door removal	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
3759 Lynville Road	1962+	N/A	Frame Vernacular	Wood frame	Excellent	Single family residence	Replacement roofing and windows	No further work	Yes	Chain link fence slats; Eastern redcedar along proposed PV site fence line
3883 Lynville Road	C1940	N/A	Frame Vernacular	Wood frame	Good	Single family residence	Front porch enclosure, windows replacements, exterior wall fabric replacement	No further work	No (trees and buildings blocking view)	N/A

[1]Located at the northwest end of Runway-OLF Bravo (201137), outside of APE. Not documented.
[2]Street number not visible from right-of-way.

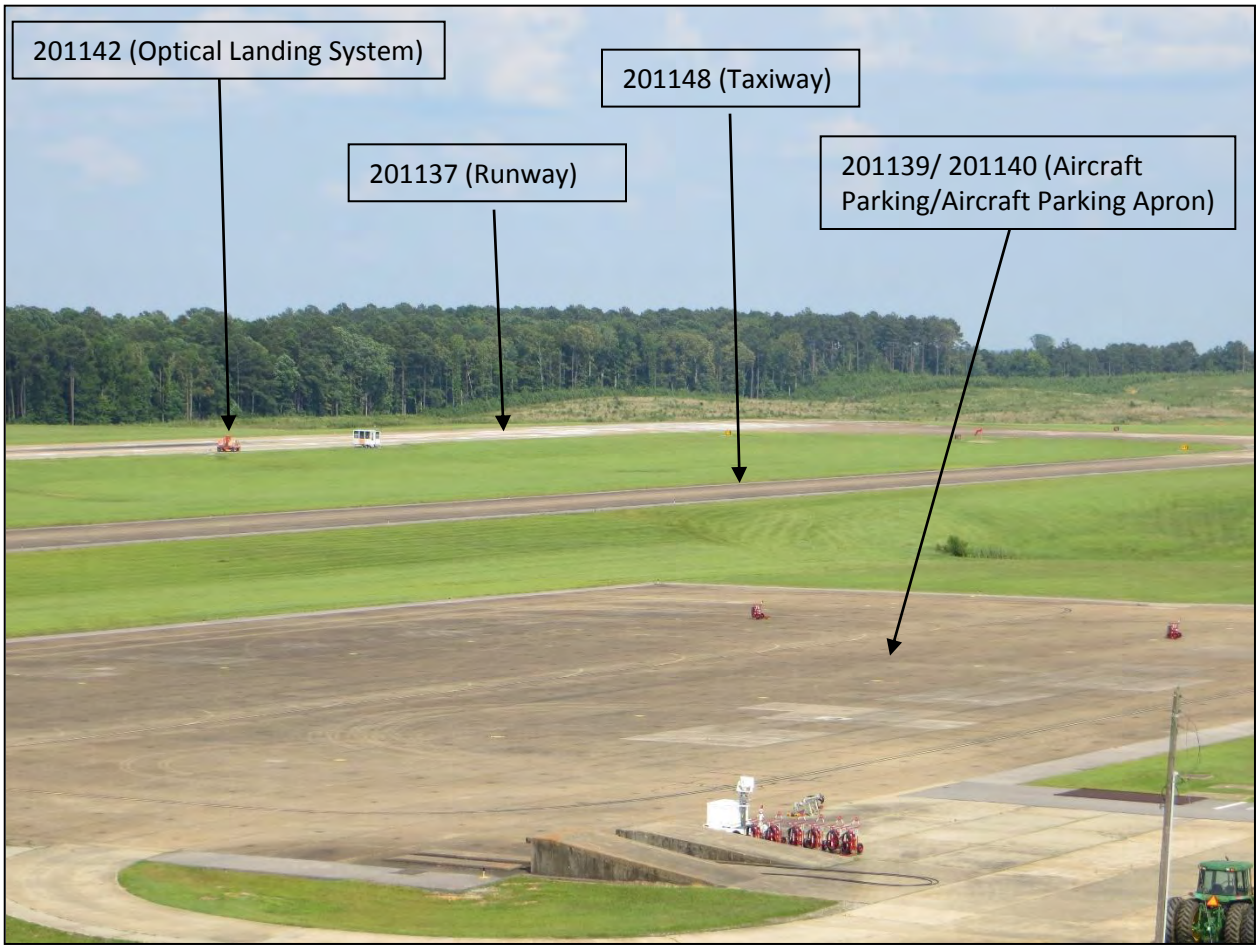


Figure 2. Facilities 201137, 201142, 201148, and 201139/201140 located on NOLF Joe Williams, facing east/southeast from N 32 47 35.4 W 88 50 1.0.



Figure 3. Built resource on Air Base Road, facing southeast from N 32 46 57.9 W 88 49 48.7.



Figure 4. Built resource on Kent Road, facing east from N 32 47 54.7 W 88 48 49.6.



Figure 5. Built resource at 3468 Lynville Road, facing northeast from N 32 47 51.9 W 88 48 50.8.



Figure 6. Built resource at 3759 Lynville Road, facing west from N 32 48 8.7 W 88 48 43.8.



Figure 7. Built resource 3883 Lynville Road, facing west from N 32 48 15.9 W 88 48 40.2.

Mississippi Department of Archives and History

Historic Preservation Division • Post Office Box 571 • Jackson, Mississippi 39205-0571
Telephone 601-359-6940 • Fax 601-359-6955

Established 1902

August 22, 1997

Mr. James F. Copeland
Natural and Cultural Resources Manager
Public Works Department
Naval Air Station
Meridian, Mississippi 39309

Dear Mr. Copeland

RE: Proposed construction in the NE1/4 SE1/4 Sec. 12, T8N, R16E and the NW1/4 NE1/4 Sec. 9, T8N, R17E, at the Meridian Naval Air Station

We are in receipt of your August 20, 1997, cultural resource assessment request regarding the above referenced undertaking. It is our opinion that no properties eligible for listing in the National Register of Historic Places are in the aforementioned undertaking's area of potential effect.

The Mississippi State Historic Preservation Officer, in October 1988, concurred with the findings of the Mobile District, Corps of Engineers, that no archaeological sites or historic structures eligible for listing in the National Register are located on the Naval Air Station Meridian. The aforementioned findings in cultural resources survey report #88-178 concluded that no further archaeological investigations were warranted.

In 1997 this office reviewed and commented on a subsequent cultural resources survey report (#97-013) prepared by Garrow and Associates, which identified sites considered to be eligible or potentially eligible for listing in the National Register.

It is still our opinion that no further archaeological investigations are warranted at the station, but we will be happy to review and comment on a draft programmatic agreement for project site approvals at the Naval Air Station (Lauderdale and Kemper Counties), Joe Williams Field (Kemper County), and Searay Target Range (Noxubee County).

Sincerely

Roger G. Walker

Roger G. Walker
Review and Compliance Officer

cc: Clearinghouse for Federal Programs

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Mississippi Department of Archives and History

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August 15, 2001

Mr. L. M. Pitts
Head of Environmental Planning
Department of the Navy
Southern Division
Post Office Box 190010
North Charleston, South Carolina 29419-9010

Dear Mr. Pitts:

RE: Draft Integrated Cultural Resources Management Plan for Naval Air Station Meridian, Mississippi
Phase I Archeological Survey of Approximately 919 Acres, Joe Williams Field, NAS Meridian, Kemper County, Mississippi

We have reviewed the above referenced documents provided to us under your cover letter dated May 4, 2001. We concur with the statement on page E-3 of the ICRMP that, "NAS Meridian has one (1) eligible archaeological site, 22LD658 and eight (8) potentially eligible archaeological sites." The potentially eligible sites are 22LD670, 671, 674, 675, 676, 681, 682, and Site 6 surveyed during June and July 1996 by Thomason & Associates and Garrow and Associates, Inc. In addition, we have reconsidered documentation provided regarding sites surveyed during July and August 1997 by TRC Garrow Associates, Inc. and concurred that sites 22LD693 and 22LD697 are potentially eligible for listing in the National Register of Historic Places. This would make a total of ten (10) potentially eligible sites and one (1) eligible site on the NAS Meridian property. We concur with the provisions of the ICRMP that these sites should be protected and that, if the sites will be impacted by future development, they should undergo Phase II archaeological investigations. In addition, we concur with the provisions on page E-3 regarding Treatment of Archaeolcgical Sites and Future Archaeological Sites and Surveys.

Board of Trustees: William F. Winter, president / Van R. Burnham, Jr. / Arch Dalrymple III / Lynn Crosby Gammill / E. Jackson Garner
Gilbert R. Mason, Sr. / Duncan M. Morgan / Mattis D. Ramage, Jr. / Rosemary Taylor Williams / *Department Director: Elbert R. Hilliard*

In regard to the Phase I Archeological Survey of Joe Williams Field, we concur that none of the nine (9) newly recorded sites are eligible for listing in the National Register of Historic Places.

If you need further information regarding this matter, please let us know.

Sincerely,

Elbert R. Hilliard
State Historic Preservation Officer

Thomas H. Waggener

BY: Thomas H. Waggener
Review and Compliance Officer

cc: Clearinghouse for Federal Programs

-----Original Message-----
From: Calabrese, John A CIV NAVFAC SE, EV
Sent: Friday, September 11, 2015 12:17 PM
To: Huxley-Nelson, Taura A CIV NAVFAC SE, EV; Zahm, Cory CIV NAVFAC LANT EV
Subject: FW: Proposed Renewable Energy Projects, NAS Meridian, Mississippi

Concurrence from the Choctaw.

-----Original Message-----
From: Ian Thompson [mailto:ithompson@choctawnation.com]
Sent: Friday, September 11, 2015 12:10 PM
To: Calabrese, John A CIV NAVFAC SE, EV
Subject: Re: Proposed Renewable Energy Projects, NAS Meridian, Mississippi

The Choctaw Nation of Oklahoma thanks the Department of the Navy for consultation on the above-referenced projects. Both Lauderdale and Kemper County, Mississippi, are located within the core of the Choctaw homeland. Both are within lands ceded by the Choctaw Nation to the United States through the Treaty of Dancing Rabbit Creek. Any aboriginal materials located in and around the APEs are likely to be culturally affiliated with the Choctaw Nation of Oklahoma.

Although a number of Choctaw cultural sites are located in close proximity to each of these projects, the Choctaw Nation Historic Preservation Department is not aware of any within the APEs. Because these areas have seen previous ground disturbance, the Choctaw Nation would concur with a finding of "No Historic Properties Affected" for both of these projects. If work uncovers human remains or intact archaeological deposits, we ask that ground-disturbing activities are halted immediately and that our office is contacted as quickly as possible.

Thank you,

Ian Thompson PhD, RPA

THPO, Tribal Archaeologist,

Director, Historic Preservation Dept.

Choctaw Nation of Oklahoma

PO Drawer 1210

Durant, OK 74701

1-800-522-6170 ext. 2216

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MISSISSIPPI DEPARTMENT *of* ARCHIVES AND HISTORY

MDAH

HISTORIC PRESERVATION
Jim Woodrick, director
PO Box 571, Jackson, MS 39205-0571
601-576-6940 • Fax 601-576-6955
mdah.state.ms.us

January 11, 2016

Commanding Officer
Naval Facilities Engineering Command Southeast
Attn: Mr. John Calabrese (EV23)
P. O. Box 30A, BLDG 903, NAS
Jacksonville, Florida 32212-0030

RE: Revised project area for proposed renewable energy projects,
Joe Williams Field and NAS Meridian, MDAH Project Log #08-051-15,
Kemper and Lauderdale Counties

Dear Mr. Calabrese:

We have reviewed your request for a cultural resources assessment, received on December 18, 2015, for the above referenced projects and proposed transmission right-of-way at Joe Williams Field, as required under Section 106 of the National Historic Preservation Act and 36 CFR Part 800. After reviewing the information provided, we concur the project will have no adverse effect on historic properties, including resources 75-LAU-6100 and 069-DKB-5607. As such, we have no reservations with either project.

There remains the possibility that unrecorded cultural resources may be encountered during the project. Should this occur, we would appreciate your contacting this office immediately in order that we may offer appropriate comments under 36 CFR 800.13.

If you need more information, please let me know.

Sincerely,

Greg Williamson
Review and Compliance Officer

FOR: Katie Blount
State Historic Preservation Officer

Board of Trustees: Kane Ditto, president / E. Jackson Garner, vice president / Reuben V. Anderson / Nancy Carpenter / Valencia Hall
Bersey Hamilton / Web Heidelberg / Hilda Cope Povall / Roland Weeks / *Department director: Katie Blount*

B Electricity and Air Quality Calculations

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Proposed Solar PV Project, NAS Meridian

Site	Site Area Estimated to be Available for Solar PV Development[1] (acres)	Estimated Generating Capacity[1] MW(DC)	Estimated Annual Electricity generation (MWH) AC	Percentage of NAS Annual usage[2]	Estimated Annual Reduction in GHG Emissions (MTCO2e)
NAS Meridian: Lauderdale County					
Rabbit Road	54.60	6.0	7,982	22%	4,988

[1] see Table 2-1 of EA, Section 2.2.

[2] Based on total usage at NAS Meridian in FY 2012 of 35,958 MWH (NREL 2014)

Estimated Emissions avoided Energy Generated by PV system

			Emissions factors (lbs/MWH)		Emissions per year (tons)	
Energy Supply	**Unit**	**Total**	**NOX**	**SO2**	**NOX**	**SO2**
Electricity						
NAS Meridian: Lauderdale County	MWH	7,982	1.0	2.2	3.99	8.78
FY12 electricity consumption (kwh)[1]		35,958,200				

[1]NREL (National Renewable Energy Laboratory). 2014a. Navy Renewable Energy Screening Results (FY 2012). Updated January 9, 2014. Excel Workbook "Navy REopt DATABASE 01 9-14 Net Zero and LLCC only.xlsx"

TVA eGRID Electricity Profile

https://www.epa.gov/sites/production/files/2017-01/documents/egrid_summarytables.pdf
Accessed at https://www.epa.gov/energy/egrid-2014-summary-tables
From Table, 4, Total output emission rates, SRTV eGRID Subregion

Sulfur Dioxide (lbs/MWh)	2.2
Nitrogen Oxide (lbs/MWh)	1.0

Estimated GHG Emissions avoided Energy Generated by PV system

			SERC Tennessee Valley (SRTV) (lbs/MWH)			Emissions per year ($MTCO_2E$)			
Energy Supply	**Unit**	**Total**	**CO_2**	**CH_4**	**N_2O**	**CO_2**	**CH_4**	**N_2O**	**Total CO_2e**
Electricity	KWH	7,982,423	1,368.10	0.142	0.0207	4,952.56	12.86	22.33	4,987.75
	MWH	7,982	1,368.10	0.142	0.0207	4,952.56	12.86	22.33	4,987.75

Table 3, Total output emission rates: https://www.epa.gov/sites/production/files/2017-01/documents/egrid_summarytables.pdf
Accessed at https://www.epa.gov/energy/egrid-2014-summary-tables

Global Warming Potential (GWP) values are from the U.S. Inventory of Greenhouse Gas Emissions and Sinks: 1990–2014
https://www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014

	CO_2	CH_4	N_2O
GWP	1	25	298

Table 4.8-2 Annual GHG Emissions Reductions, Alternative 1

Electricity Generated (MWH)	Emissions per year ($MTCO_2E$)					
	CO_2	**CH_4**	**N_2O**	**Total CO_2e**	**CO_2e Uptake Loss from Forest Removal**	**Total CO_2e Reduced**
7,982	4,953	13	22	4,988	(98)	4,890

Results from NREL "PVWATTS" online solar calculator: NAS Meridian

http://pvwatts.nrel.gov/

accessed January 24, 2017

PVWatts: Monthly PV Performance Data

Requested Location:	MERIDIAN NAAS, MS
Location:	MERIDIAN NAAS, MS
Lat (deg N):	32.55
Long (deg W):	88.57
Elev (m):	83
DC System Size (kW):	6000
Module Type:	Standard
Array Type:	Fixed
Array Tilt (deg):	20
Array Azimuth (deg):	180
System Losses:	14
Invert Efficiency:	96
DC to AC Size Ratio:	1.1

Month	AC System Output(kWh)	Solar Radiation (kWh/m^2/day)	Plane of Array Irradiance (W/m^2)	DC array Output (kWh)	Value ($)
1	539,316	3.56	110.29	564,038	$ 67,253
2	550,688	4.12	115.31	576,269	$ 68,671
3	592,481	4.09	126.76	620,612	$ 73,882
4	708,009	5.19	155.77	740,916	$ 88,289
5	769,320	5.51	170.90	804,816	$ 95,934
6	732,441	5.52	165.47	766,482	$ 91,335
7	738,428	5.47	169.66	772,322	$ 92,082
8	816,671	6.08	188.35	852,566	$ 101,839
9	679,642	5.03	151.04	710,306	$ 84,751
10	755,942	5.43	168.24	788,019	$ 94,266
11	563,921	4.04	121.17	589,730	$ 70,321
12	535,564	3.58	111.10	560,438	$ 66,785
Annual	**7,982,423**	**4.80**		**8,346,513**	**$ 995,408**

Air Quality Assessment Analysis Tables

Onroad Vehicle Exhaust Emission Factors

Equipment Type	Fuel Type	Exhaust Emission Factor[a] (g/VMT)							Road Dust Emission Factor[d] (g/VMT)		Total PM Emission Factor[e] (g/VMT)	
		VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$	CO_2	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Gasoline Light Trucks	Gasoline	1.03	9.40	0.69	0.0106	0.0044	0.0041	368	3.13	0.341	3.13	0.345
Gasoline Passenger Cars	Gasoline	1.22	11.84	0.95	0.0147	0.0049	0.0045	514	3.13	0.341	3.13	0.346
Average Gasoline Vehicles	Gasoline	1.13	10.62	0.82	0.013	0.005	0.004	440.95	3.13	0.341	3.13	0.346
Diesel Vehicles	Diesel	0.28	1.10	8.06	0.158	0.17	0.17	1,400	3.13	0.341	3.30	0.511

Notes:

a. Emission factors for gasoline worker vehicles from "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks (EPA420-F-08-024, EPA 2008). It was assumed that the vehicle make-up included 50% cars and 50% light-duty trucks/SUVs.

b. Emission factors for diesel worker and delivery vehicles (except SO2 and CO2) from "Assessing the Effects of Freight Movement on Air Quality at the National and Regional Level- Final Report" (U.S. Federal Highway Administration 2005).

c. CO2 and SO_2 emission factors for diesel worker and delivery vehicles from "Greenhouse Gas Protocol - Corporate Accounting and Reporting Standard / Mobile Guide" (World Resources Institute/World Business Council for Sustainable Development 2005). SO2 emission factor calculated from diesel consumption rate and a sulfur content of 348 ppm.

d. See emission factor derivation table below.

e. Sum of exhaust and road dust emission factors.

Paved Roads - Emission Factor Derivation Table

$E = (k(sL/2)^{0.65}(W/3)^{1.5}-C)$ AP-42 Section 13.2.1 (11/06 version)

where:

E = particulate emission factor (lb/VMT)

k = particle size multiplier

sL = road surface silt loading (g/m^2)

W = average vehicle weight (tons)

C = emission factor for 1980's vehicle fleet exhaust, break wear and tire wear

Parameter	Units	PM_{10}	$PM_{2.5}$	Reference
Mean Vehicle Weight	tons	3	3	Assumption
k factor	g/VMT	7.3	1.1	Table 13.2-1.1
Silt Loading, sL	g/m^2	0.6	0.6	Table 13.2.1-3
Emission factor, C	g/VMT	0.2119	0.1617	Table 13.2.1-2
Emission factor, E	g/VMT	3.13	0.341	Table 13.2.1-3

Construction Equipment Exhaust Emission Factors, Based on EPA NONROAD emission rates

Equipment Type	Type	SCC	Avg Size[1] (hp)	Load[2]	Range	Emission Factor[3] (g/hp-hr)					Equipment Emission Rate[4] (lbs-hr)				
						NO_x	VOC	CO	SO_2	PM_{10}	NO_x	VOC	CO	SO_2	PM_{10}
Asphalt Paving Machine	Diesel	2270002003	91	0.59	75<hp≤100	2.63	0.27	2.83	0.006	0.38	0.31	0.03	0.33	0.001	0.04
Vibratory Compactor	Diesel	2270002009	8	0.43	6<hp≤11	4.95	0.68	4.49	0.007	0.50	0.04	0.01	0.03	0.000	0.00
Generators	Diesel	2270006005	22	0.43	16<hp≤25	5.36	0.74	3.03	0.007	0.49	0.11	0.02	0.06	0.000	0.01
Air Compressors	Diesel	2270006015	37	0.43	25<hp≤40	4.28	0.25	1.28	0.007	0.23	0.15	0.01	0.04	0.000	0.01
Excavator/Loaders/Backhoes	Diesel	2270002066	77	0.21	75<hp≤100	5.14	1.03	6.13	0.008	0.91	0.18	0.04	0.22	0.000	0.03
Aerial Lifts (Cherry Pickers)	Diesel	2270003010	43	0.21	40<hp≤50	5.88	1.81	6.78	0.008	0.98	0.12	0.04	0.13	0.000	0.02
Crawler Tractor/Dozers	Diesel	2270002069	157	0.59	100<hp≤175	2.44	0.21	1.00	0.006	0.24	0.50	0.04	0.20	0.001	0.05
Off-Highway Trucks	Diesel	2270002051	489	0.59	300<hp≤600	1.97	0.15	0.78	0.006	0.13	1.25	0.10	0.50	0.004	0.08
Marine Equipment	Diesel	2282005010	1250	0.51	hp>750	4.50	0.30	1.00	0.006	0.40	6.32	0.42	1.41	0.008	0.56
Misc. Light Pumps	Diesel	2270006010	20	0.74	16<hp≤25	5.36	0.74	3.03	0.007	0.49	0.17	0.02	0.10	0.000	0.02
Commercial Welder	Diesel	2270006025	35	0.45	25<hp≤40	4.28	0.25	1.28	0.007	0.23	0.15	0.01	0.04	0.000	0.01
Pressure Washers	Diesel	2270006030	9	0.3	6<hp≤11	4.95	0.68	4.49	0.007	0.50	0.03	0.00	0.03	0.000	0.00
Roller	Diesel	2270002015	95	0.61	75<hp≤100	5.14	1.03	6.13	0.008	0.91	0.66	0.13	0.78	0.001	0.12
Crane (Hydraulic Truck)	Diesel	2270002045	194	0.47	175<hp≤300	2.80	0.20	1.00	0.006	0.40	0.56	0.04	0.20	0.001	0.08
Crane (Crawler)	Diesel	2270002045	489	0.47	200<hp≤500	8.38	0.68	2.70	0.006	0.40	4.25	0.34	1.37	0.003	0.20
Scraper	Diesel	2270002018	311	0.7	300<hp≤600	1.97	0.15	0.78	0.006	0.13	0.95	0.07	0.38	0.003	0.06
Surfacing Equipment	Diesel	2270002024	183	0.49	150<hp≤250	2.80	0.20	1.00	0.006	0.40	0.55	0.04	0.20	0.001	0.08
Trencher	Diesel	2270002030	77	0.66	50<hp≤100	8.30	0.99	3.49	0.008	0.72	0.93	0.11	0.39	0.001	0.08
Concrete Saw	Diesel	2270002039	79	0.78	75<hp≤100	5.14	1.03	6.13	0.008	0.91	0.70	0.14	0.83	0.001	0.12
Cement Mixer	Diesel	2270002042	11	0.59	6<hp≤20	5.20	0.70	2.00	0.007	0.60	0.07	0.01	0.03	0.000	0.01
Drill Rig	Diesel	2270002033	209	0.79	100<hp≤250	8.38	0.68	2.70	0.006	0.40	3.05	0.25	0.98	0.002	0.15
Grader	Diesel	2270002048	172	0.64	150<hp≤250	4.50	0.40	1.00	0.006	0.40	1.09	0.10	0.24	0.001	0.10
Skid Steer	Diesel	2270002072	131	0.58	50<hp≤250	3.30	0.20	1.00	0.006	0.72	0.55	0.03	0.17	0.001	0.12
Telehandler	Diesel	2270003020	111	0.3	100<hp≤125	6.90	0.20	1.00	0.006	0.40	0.51	0.01	0.07	0.000	0.03

Notes:

1. Avg hp from "Nonroad Engine and Vehicle Emissions Study Report" EPA 460/3-91-02. Nov 1991.
2. Load from "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling" EPA420-P-04-005. April 2004.
3. Emission factors from EPA's NONROAD model (Year 2014) and NR-009A, June 15, 1998.
4. Equipment Emission Rate = Average HP x Load x Emission Factor x 453.6 g/lb.

Mobile Equipment Exhaust Emissions: NAS Meridian

Equipment List	Equipment quantity	Days Used	Emission Factors (lb/day)[1] NOx	VOC	CO	SO_2[2]	PM_{10}	Emissions (lbs/year) NOx	VOC	CO	SO_2	PM_{10}
Asphalt Paving Machine	0	5	2.49	0.25	2.68	0.01	0.36	0.00	0.00	0.00	0.00	0.00
Vibratory Compactor	1	30	0.30	0.04	0.27	0.00	0.03	9.01	1.24	8.17	0.01	0.91
Generators	2	120	0.89	0.12	0.50	0.00	0.08	214.63	29.55	121.17	0.28	19.54
Air Compressors	2	120	1.20	0.07	0.36	0.00	0.06	288.43	16.84	86.07	0.47	15.35
Excavator/Loaders/Backhoes	2	120	1.47	0.29	1.75	0.00	0.26	351.67	70.70	419.43	0.55	62.42
Aerial Lifts (Cherry Pickers)	2	120	0.94	0.29	1.08	0.00	0.16	224.71	69.18	259.18	0.31	37.38
Crawler Tractor/Dozers	2	120	3.98	0.34	1.63	0.01	0.39	954.73	80.77	392.08	2.35	94.49
Off-Highway Trucks (Including Water trucks)	2	120	10.03	0.77	3.98	0.03	0.66	2407.00	185.62	956.20	7.33	158.76
Marine Equipment	0	120	50.60	3.37	11.24	0.07	4.50	0.00	0.00	0.00	0.00	0.00
Misc. Light Pumps	0	120	1.40	0.19	0.79	0.00	0.13	0.00	0.00	0.00	0.00	0.00
Commercial Welder	4	120	1.19	0.07	0.36	0.00	0.06	571.07	33.33	170.40	0.93	30.40
Pressure Washers	4	120	0.24	0.03	0.21	0.00	0.02	113.19	15.57	102.63	0.16	11.45
Roller	1	120	5.25	1.06	6.26	0.01	0.93	630.15	126.69	751.57	0.98	111.85
Crane (Hydraulic Truck)	2	120	4.50	0.32	1.61	0.01	0.64	1080.65	77.19	385.95	2.32	154.38
Crane (Crawler)	0	120	33.97	2.76	10.94	0.02	1.62	0.00	0.00	0.00	0.00	0.00
Scraper	1	30	7.57	0.58	3.01	0.02	0.50	227.03	17.51	90.19	0.69	14.97
Surfacing Equipment	1	30	4.43	0.32	1.58	0.01	0.63	132.84	9.49	47.44	0.28	18.98
Trencher	2	120	7.44	0.89	3.13	0.01	0.65	1785.42	212.96	750.74	1.72	154.88
Concrete Saw	0	0	5.58	1.12	6.66	0.01	0.99	0.00	0.00	0.00	0.00	0.00
Cement Mixer	2	120	0.60	0.08	0.23	0.00	0.07	142.85	19.23	54.94	0.19	16.48
Drill Rig	1	120	24.40	1.98	7.86	0.02	1.16	2928.30	237.62	943.49	2.10	139.78
Grader	1	30	8.74	0.78	1.94	0.01	0.78	262.10	23.30	58.24	0.35	23.30
Skid Steer	1	30	4.42	0.27	1.34	0.01	0.96	132.66	8.04	40.20	0.24	28.94
Telehandler	1	30	4.05	0.12	0.59	0.00	0.23	121.57	3.52	17.62	0.11	7.05
	34					Annual Emissions lbs/year, Alternative 1		12578.0	1238.4	5655.7	21.4	1101.3
						Annual Emissions TPY, Alternative 1		**6.29**	**0.62**	**2.83**	**0.011**	**0.55**

[1] Construction Equipment Exhaust Emission Factors, Based on EPA NONROAD emission rates, 8 hours of operation per day

Annual Site Preparation and Demolition Particulate Emissions

Site	Acres	Site Preparation: Topsoil Removal (lbs)	Site Preparation: Earthmoving (lbs)	Vehicles (lbs)	PM_{10} Emissions (lbs/yr)	PM_{10} Emissions (tons/yr)	$PM_{2.5}$ Emissions (tons/yr)
NAS Meridian: Lauderdale County	54.60	6,846.84	1,441.44	3,363.36	11652	5.83	0.58

Emission factors obtained from EPA-450/2-92-004 Fugitive Dust document (U.S. Environmental Protection Agency September 1992)

Factors for	Topsoil Removal	5.70 kg/VKT
	Earth Moving	1.20 kg/VKT
	Vehicles	2.80 kg/VKT

Assume vehicle kilometers traveled (VKT) per acre: 10 km

Debris Burning							
	Vegetation Removal Acres[1]	PM_{10} Emission Factor lbs/ton load factor[2]	Load Factor tons/acre[1,2]	PM_{10} Emissions from Debris burning (LBS)	Assumed efficiency of air curtain %	Total PM10 emissions TPY	Total PM2.5 emissions TPY
NAS Meridian: Lauderdale County	54.60	17	57.0	52907.4	50%	13.2	1.3

[1] Includes forest and shrub/brush acreage. Assuming lumber would be removed, and forest acreage debris would be similar to softwood land clearing debris.

[2] Kirstin B. Thesing, Roy Huntley, n.d.:

Open Burning and Construction Activities: Improved PM Fine Emission Estimation Techniques in the National Emissions Inventory, n.d.
http://www.epa.gov/ttnchie1/conference/ei10/pm/huntley.pdf

Table 4 Loading factors for land clearing debris burning

Fuel type	Fuel loading (tons/acre)
Hardwood	99
Softwood	57
Grass	4.5

Assumes 10% of PM10 emission are PM2.5

Emissions from On Road Vehicle Activity

Source	Number of daily trips	Number of days[1]	Total number of trips	Average trip distance (miles)	Total Annual Miles	Emissions TPY[2]						
						VOC	CO	NOx	SO2	CO2	PM_{10}	$PM_{2.5}$
NAS Meridian: Lauderdale County												
Worker Commute	68	120	8160	25	204,000	0.253	2.383	0.184	0.0028	98.949	0.702	0.078
Deliveries	5	120	600	100	60,000	0.018	0.073	0.532	0.0104	92.400	0.218	0.034
Total						**0.272**	**2.456**	**0.716**	**0.013**	**191.349**	**0.920**	**0.111**

[1] Assumes worker for each piece of off road equipment, all construction activities will be performed within 1 year.

[2] Calculated using EPA420-F-05-22(EPA 2008)emission rates

Construction Emissions Summary Table

Table 4.8-1 Annual Criteria Pollutant Emissions from Construction

Activity	Total Emissions (Tons)					
	VOCs	CO	NOx	SO_2	PM_{10}	$PM_{2.5}$
NAS Meridian: Lauderdale County						
Nonroad equipment	0.62	2.83	6.29	0.011	0.55	0.55
On road equipment	0.27	2.46	0.72	0.01	191.35	0.92
PM Emissions from Site Preparation					5.83	0.58
PM Emissions from Land Clearing Debris Burning					13.23	1.32
Total	**0.89**	**5.28**	**7.01**	**0.02**	**210.95**	**3.38**

Key:

CO = Carbon monoxide.

NO_x = Nitrogen oxides.

PM_{10} = Particulate matter less than 10 microns in diameter.

SO_2 = Sulfur Dioxide

VOCs = Volatile organic compounds.

TPY = Tons per year

Sitewide Forest Carbon SInk, and Forest Carbon Sink Removed

Site	Area of Forest Land Removed(acres)				C/CO2e Sink Removed Calculations			Annual CO2 uptake Calculations				
	Forest Type[1]	App A Table[1]	Total Acres	Age of Forest (years)	Mean Carbon density (Total nonsoil) at age of forest years (Average MT/acre)[1]	Total Carbon Stock of existing Forest (MTCarbon)	Total MT CO2e value of the Carbon sink	Mean Carbon density (Live tree) at 25 years (Average MT/acre)[1]	Mean Carbon density (Live tree) at 45 years (Average MT/acre)[1]	Annual CO2 uptake emission factors (MTC/acre-yr)[2]	Annual CO2 uptake emission factors (MTCO2e/acre-yr)[2]	Total Annual CO2 uptake (MTCO2e)
NAS Meridian: Lauderdale County	Loblolly-shortleaf pine, Southeast	A39	0	50	45.1	0.0	0	20.4	31.90	0.58	2.11	0
	Oak-gum-cypress, Southeast	A43	1.74	50	43.5	75.7	278	18.9	32.70	0.69	2.53	4
	Oak-pine, Southeast	A45	36.47	50	45.4	1,655.7	6,077	19	33.00	0.70	2.57	94
Total NAS Meridian			**38.21**			**1,731**	**6,354**					**98**

[1] Smith et al. 2006

[2]Net annual stock change in live tree carbon between year 25 and 45, which is from the difference in stocks divided by the length of the interval between stocks x total acres

1 acre =	0.00404686	km2
1 hectare =	2.47	acres
1 unit carbon =	3.67	unit CO2

[1]Smith, James E., Linda S. Heath, Kenneth E. Skog, and Richard A. Birdsey. 2006. Methods for Calculating Forest Ecosystem and Harvested Carbon with Standard Estimates for Forest Types of the United States. United States Department of Agriculture -Forest Service – Northeastern Research Station. General Technical Report NE-343.

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C Wetland Delineation Report for Naval Air Station Meridian, Mississippi

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Final
Wetland Delineation Report for Proposed Solar Sites at Naval Air Station Meridian and Navy Outlying Landing Field Joe Williams, Mississippi

November 2015

Prepared for:

Naval Facilities Engineering Command, Atlantic Division

Prepared by:

Ecology and Environment, Inc.

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Acronyms and Abbreviations

°F	degrees Fahrenheit
CFR	Code of Federal Regulations
CNATRA	Chief of Naval Air Training
CWA	Clean Water Act
E & E	Ecology and Environment, Inc.
EA	environmental assessment
EPA	(U.S.) Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GPS	global positioning system
GW	Gigawatt
INRMP	Integrated Natural Resource Management Plan
MDEQ	Mississippi Department of Environmental Quality
NAS	Naval Air Station
Navy	U.S. Department of the Navy
NOLF	Naval Outlying Landing Field
NRCS	Natural Resource Conservation Service
OHWM	ordinary high water mark
PEM	palustrine emergent marsh
PFO	palustrine forested
PSS	palustrine scrub-shrub
PV	photovoltaic
REPO	Renewable Energy Program Office
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Survey
USGS	U.S. Geological Survey
USMC	U.S. Marine Corps

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Executive Summary

The U.S. Department of the Navy (Navy) is preparing an environmental assessment (EA) to evaluate the environmental consequences of the construction, operation, and decommissioning of a solar photovoltaic (PV) system at Naval Air Station (NAS) Meridian located in Lauderdale County, Mississippi, and Naval Outlying Landing Field (NOLF) Joe Williams in Kemper County, Mississippi. The Project would lease up to 1,094 acres at NAS Meridian to an independently operated commercial power utility company (power utility).

The purpose of this report is to present and discuss the findings of a pre-jurisdictional wetland delineation within the proposed Project Areas and a Potential Transmission Corridor at NAS Meridian and the proposed Project Areas and a Potential Transmission Corridor at NOLF Joe Williams. These Project Areas consist of five alternative sites, three at NAS Meridian and two at NOLF Joe Williams. The NAS Meridian alternative sites include: 1) The Stables Site, 2) Mudlake Site, and 3) Rabbit Road Site. The NOLF Joe Williams sites include: 1) SW Site, and 2) NE Site. Included in the Project Areas is a Potential Transmission Corridor located south of the Stables and Mudlake sites at NAS Meridian and another Potential Transmission Corridor located in the southeastern portion of the airfield clear zone between the NE and SW sites at NOLF Joe Williams. Ecology and Environment, Inc. (E & E) conducted field investigations at the Project Areas from January 28 through February 14, 2015, and October 19 through 22, 2015.

In summary, 66 wetlands (28 at NAS Meridian and 38 at NOLF Joe Williams), 92 streams (49 at NAS Meridian and 43 at NOLF Joe Williams), and eight hydrologic features (one at NAS Meridian and seven at NOLF Joe Williams) were identified as potential jurisdictional features within the five solar PV alternative sites and the Potential Transmission Corridor Sites. The total extent of wetlands delineated within the Project Areas was 112.85 acres (89.46 acres at NAS Meridian and 23.39 acres at NOLF Joe Williams) and the Project Areas contained a total of 58,191 linear feet of stream (31,663 linear feet at NAS Meridian and 26,528 linear feet at NOLF Joe Williams). A number of the wetlands and streams extend beyond the edge of the alternative site boundaries. The eight hydrological features identified totaled approximately 3 acres; these areas consisted of open water features (stock ponds and a reservoir). Based on field observations, all of these features were determined to be potentially jurisdictional. A total of 33 drains (25 at NAS Meridian and eight at NOLF Joe Williams) were identified throughout the Project sites. These features were determined to be man-made ditches and typically were a continuous channel with berms on both sides from prior excavation and, therefore, were not considered to be jurisdictional features.

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1 Introduction

1.1 Background and Purpose

The U.S. Department of the Navy (Navy) has prepared an environmental assessment (EA) to evaluate the environmental consequences of the construction, operation, and decommissioning of a solar photovoltaic (PV) system at Naval Air Station (NAS) Meridian located in Lauderdale County, Mississippi, and Naval Outlying Landing Field (NOLF) Joe Williams in Kemper County, Mississippi (see Figure 1-1). The Project consists of leasing up to 1,094 acres at NAS Meridian and/or NOLF Joe Williams to one or more independently operated commercial power utility companies. The utility companies would construct and operate one or several solar arrays consisting of PV cells that collect energy from sunlight for the production of electricity. The renewable energy thus created would feed into the commercial electrical energy grid. Land would be leased for an estimated 37 years including two years for construction, 25 years of operation, and two five-year options. After the terms of the lease are expired, the Navy and the power utility companies would consider a range of options, including renewing the lease or decommissioning the facility. Wetlands were delineated within five alternative sites proposed for development of a solar PV system. In addition to the five alternative sites, approximately 1.5 miles of potential transmission line right-of-way (ROW) were surveyed at NAS Meridian. The area surveyed within the five sites totaled 1,094 acres.

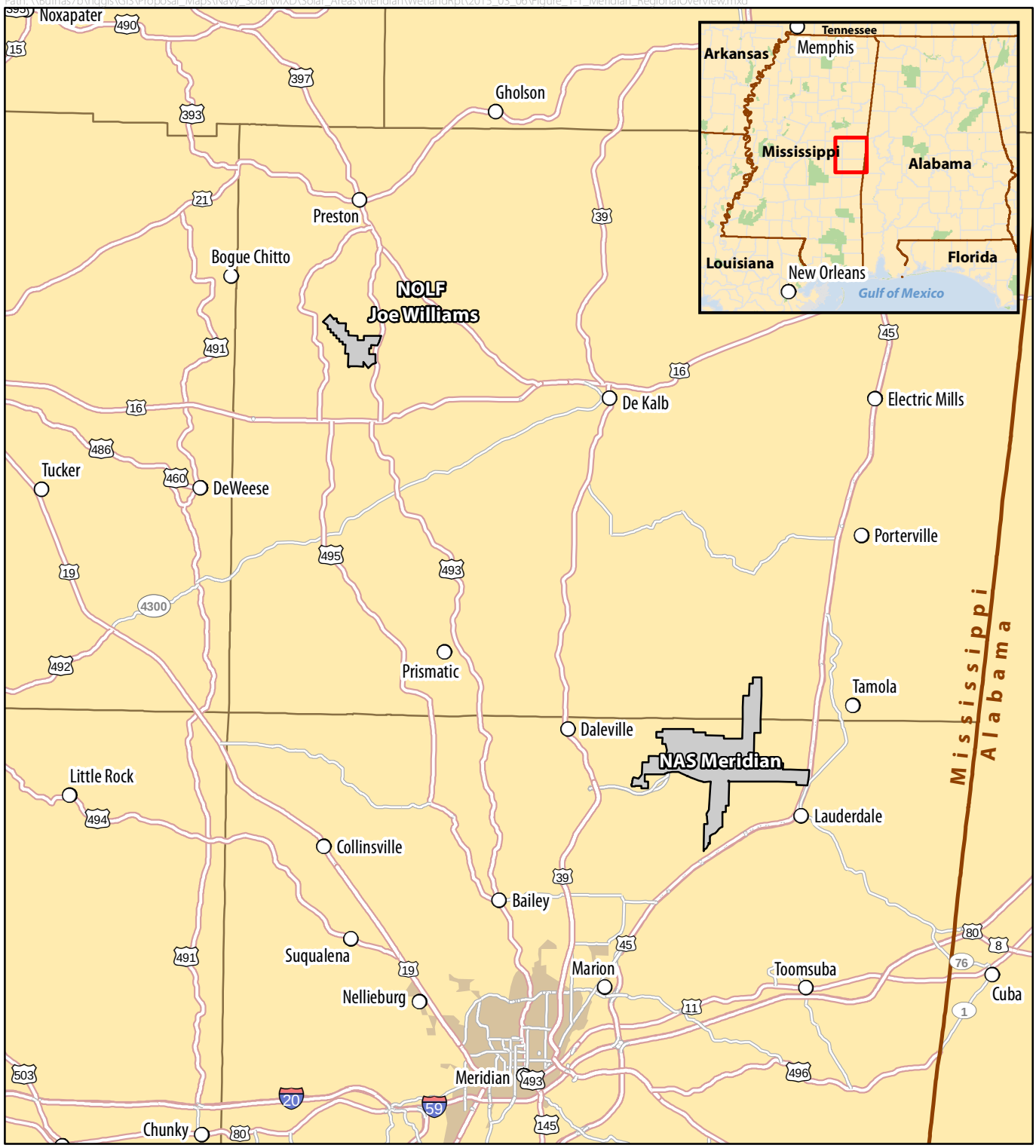
This Project is proposed as part of the 1 Gigawatt (GW) Initiative, a program created by the Secretary of the Navy to deploy renewable energy generation capacity on or near Navy installations. The 1 Gigawatt Initiative aligns with the December 2013 presidential memorandum that requires federal agencies to produce or procure, from renewable sources, 20 percent of electricity consumed by facilities by 2020 and each year thereafter. The Navy established a Renewable Energy Program Office (REPO) specifically to work with local commercial utilities to use private-sector funds to construct renewable energy facilities on Navy land. The proposed action would increase Navy installation energy security, operational capability, strategic flexibility, and resource availability through the development of renewable energy generating assets at NAS Meridian and NOLF Joe Williams.

The purpose of this report is to present and discuss the findings of a pre-jurisdictional wetland delineation within the proposed Project Areas. These Project Areas consist of three alternative sites and a Potential Transmission Corridor site at NAS Meridian, and two alternative sites and a Potential Transmission Corridor site at NOLF Joe Williams (see Figures 1-2 and 1-3). The NAS Meridian alternative sites include: 1) The Stables Site, 2) Mudlake Site, and 3) Rabbit Road Site. The NOLF Joe Williams sites include: 1) SW Site, and 2) NE Site. Included in the Project Areas is a Potential Transmission Corridor located south of the Stables and Mudlake sites at NAS Meridian and another Potential Transmission Corridor located in the southeastern portion of the airfield clear zone between the NE and SW sites at NOLF Joe Williams.

1.2 Regulatory Setting

Wetland and waterbody regulatory jurisdiction within Mississippi falls under Sections 401 and 404 of the Federal Clean Water Act (CWA) of 1977. The U.S. Army Corps of Engineers (USACE) has regulatory authority over the CWA and two USACE districts are present within the Project areas; NAS Meridian wetlands and waterbodies are within the jurisdiction of the Mobile District of the USACE; and NOLF Joe Williams wetlands and waterbodies are within the jurisdiction of the Vicksburg District of the USACE. The Mississippi Department of Environmental Quality (MDEQ) administers Section 401 Water Quality Certifications. The following is a summary of these federal and state regulations related to waterbody and wetland permitting.

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SCALE

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Legend

Military Installation Boundary

Figure 1-1

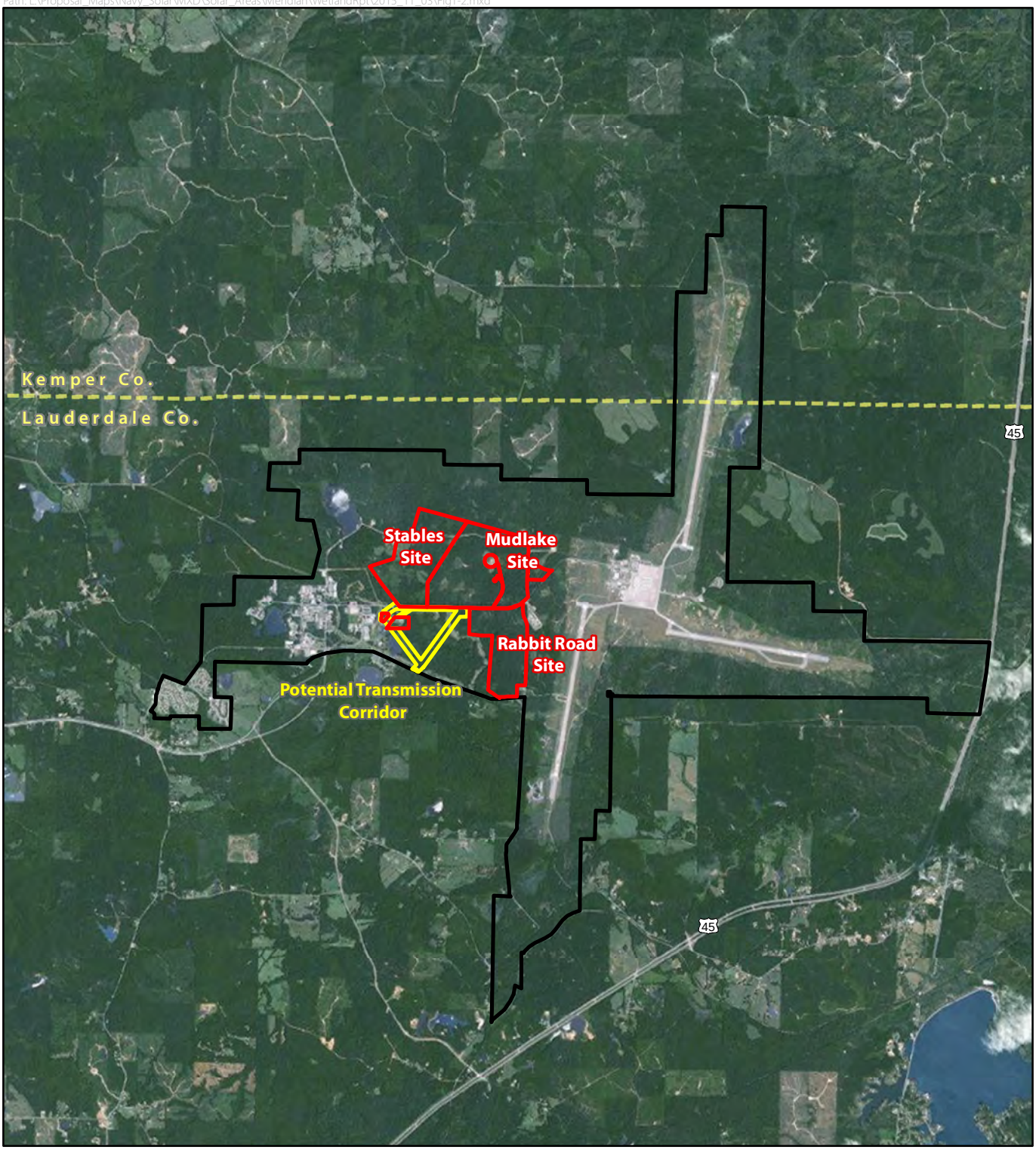
Regional Location Map at NAS Meridian

Lauderdale and Kemper Counties, Mississippi

Base Layer Credits: ESRI, 2015

© 2015 Ecology and Environment, Inc.

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Legend

- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor

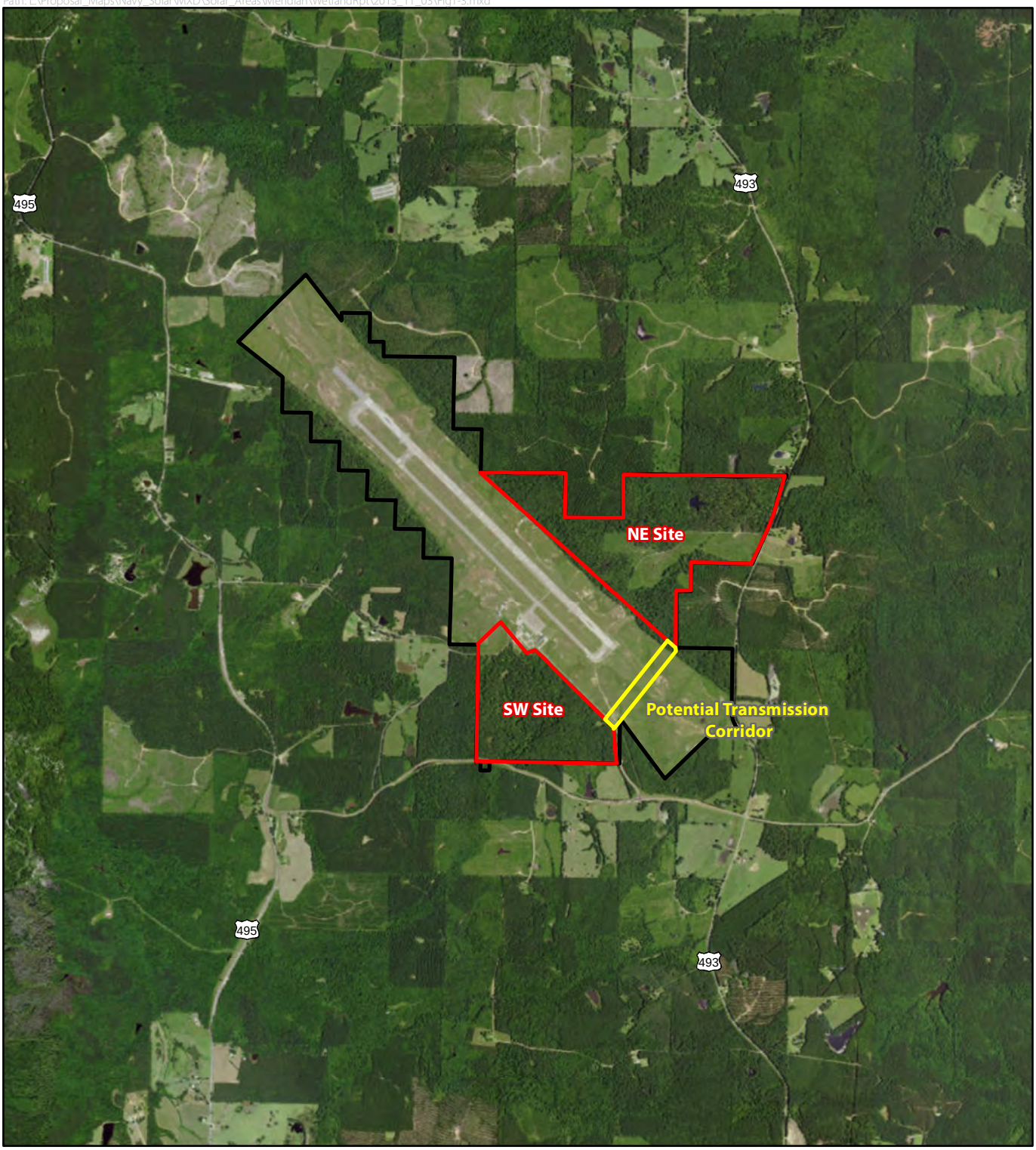
Figure 1-2

Proposed Solar PV Project Locations and Proposed Transmission Corridor at NAS Meridian

Kemper and Lauderdale County, Mississippi

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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA,

Legend

- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor

Figure 1-3

Proposed Solar PV Project Locations at NOLF Joe Williams

Kemper County, Mississippi

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1.2.1 Clean Water Act

The CWA was implemented to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Under Sections 401 and 404 of the CWA, permits must be issued for certain activities that may impact wetlands and waterways. Section 401 of the CWA requires state approval for any federally permitted action impacting waters of the United States to ensure that the permitted action will not violate the state's water quality standards or impair designated uses. Section 404 of the CWA requires that a permit be obtained for the discharge of dredged or fill material into waters of the United States, including wetlands and streams. Waters of the United States are defined in the Code of Federal Regulations (CFR) under 33 CFR, and wetlands are specifically defined under 33 CFR Part 328.3(b). Under the CWA, the U.S. Environmental Protection Agency (EPA) has the authority to delegate Section 404 permitting authority to states with qualified programs.

In the state of Mississippi, the USACE regulates waters of the United States under Section 404 of the CWA. Regulated actions include work within navigable waters or the discharge of material into waters of the United States and require a General Permit from the USACE.

1.2.2 Mississippi's State Regulations

The state of Mississippi does not have a separate wetland permitting program. Permit applications submitted to the USACE for impacts to wetlands or waters of the United States would be reviewed by the MDEQ, which administers the 401 Water Quality Certification Program. The MDEQ may waive, issue with conditions, or deny a CWA Section 401 certification. The federal CWA Section 404 permit from the USACE will not be issued until MDEQ grants a 401 certification.

1.3 Alternative Sites and Surroundings

The proposed alternative sites are those portions of NAS Meridian and NOLF Joe Williams currently under consideration for the installation of a solar PV system. The Navy understands that any and all future development within the Project Areas is contingent upon regulatory approval and that the choice of location for the new infrastructure is, consequently, flexible and does not represent an impact footprint.

1.3.1 NAS Meridian Complex History and Climate

The NAS Meridian Complex can be found in east-central Mississippi on navy-owned land, about 10 miles from the Alabama State line. The complex encompasses 9,970 acres of land, including NAS Meridian, NOLF Joe Williams, and SEARAY Target Range. Three Project Areas lie within NAS Meridian, and two lie within the NOLF Joe Williams (there are no Project Areas within SEARAY Target Range). Major land use in the NAS Meridian Complex consists of military mission related facilities and forested areas with additional housing, recreational facilities, and administrative buildings.

Meridian, Mississippi, experiences a relatively moderate climate, with an annual high temperature of 75.8 degrees Fahrenheit (°F), annual low temperature of 51.2°F, and annual precipitation of 56.19 inches (U.S. Climate Data 2015). Relative humidity is generally high, averaging approximately 60 percent during mid-afternoon, and 90 percent at dawn. Prevailing winds are from the north and average approximately 3 miles an hour. Thunderstorms are known to occur approximately 60 days per year, with occasional tornadoes. Jet flight conditions are generally considered excellent, with visual-flight-rule conditions of 1,000-foot ceilings and 3 miles of visibility for most of the year (Integrated Natural Resource Management Plan [INRMP] 2013).

Habitat types present within the Project Areas include: dry-mesic upland forests/woodlands, agricultural fields (including hay and pasture lands, old fields, prairies, cedar glades, and pine plantations), mesic upland forests, bottomland hardwood forests, inland freshwater marshes, swamp forests, lacustrine communities, streams, and urban and suburban areas. NAS Meridian encompasses 5,297 acres of

forested land in the Gulf Coastal Plains, predominantly covered with loblolly pine (*Pinus taeda*), mixed pine-hardwoods, and some shortleaf pine (*Pinus echinata*). Longleaf pines (*Pinus palustris*) can be found along ridges. Deciduous hardwoods, evergreen broadleaf trees, and shrubs can be found in forested wetlands, riparian slopes, and alluvial floodplains. Successional plant communities are made up of forest regeneration sites, fallow roadsides and fields, tornado pathways, runway safety zones (with regularly mowed grass), and hurricane-downed areas. Growing seasons for dominant vegetation are in typically the spring and summer months (April through October).

NAS Meridian

NAS Meridian encompasses approximately 8,061 acres in northeastern Lauderdale County and southeastern Kemper County, located 15 miles northeast of downtown Meridian, Mississippi, and 10 miles west of the Mississippi-Alabama state line. Construction of NAS Meridian was first commissioned by the Navy on July 14, 1961, as a Naval Auxiliary Air Station (NAAS) and construction began in July 1957. NAS Meridian's mission is to support Navy and U.S. Marine Corps (USMC) war fighters, as the base is one of the Chief of Naval Air Training's (CNATRA's) two jet strike pilot training bases. The installation is responsible for providing basic facility services, business and support functions, housing and accommodations, and quality of life services.

NOLF Joe Williams

NOLF Joe Williams encompasses approximately 1,255 acres in Kemper County, Mississippi, and is located approximately 18 miles northwest of the main base site, NAS Meridian. This facility has one 8,000-foot runway, a control tower, fuel storage areas, and multiple support buildings. The majority of the site is managed timber.

1.3.2 Project Areas

In developing the NAS Meridian Solar PV Project, the Navy identified five potential installation sites within NAS Meridian and NOLF Joe Williams, and two potential sites for a transmission corridor, one at NAS Meridian and another at NOLF Joe Williams. Three solar PV alternative sites were identified within NAS Meridian (Stables, Mudlake, and Rabbit Road) while two solar PV sites were identified within NOLF Joe Williams (SW and NE). These alternative sites (along with two possible transmission corridors) were surveyed for wetlands and waterbodies in January, February, and October of 2015. These sites are described in detail below.

Stables Site

The Stables Site encompasses approximately 236 acres. The site is a mix of maintained pastureland, mature pine managed for timber production, and bottomland hardwood associated with Segars Creek and its tributaries. The northern and eastern portions of the site are composed of forested land with rolling to steep terrain. The northwest corner of the site is approximately 20 acres of maintained pasture associated with the base stables, which are adjacent to the Project Areas to the west. The northeast portion of the site is mature loblolly and shortleaf pine, which has been managed for timber production. The southwest portion of the site is mostly bottomland hardwoods with some areas of dense young pine and oak. Two wildlife food plots are located in the southeast portion of the site.

Mudlake Site

The Mudlake Site consists of approximately of 337 acres. The majority of this site is mesic upland forest and dry-mesic upland forest managed for timber production, and one small road. The western portion of the site is mostly mesic upland forest scattered, small planted pine areas, with a small piece of bottomland hardwood forest in the southwest corner. The eastern portion of the site contains one stream with six extending tributaries amongst dry-mesic upland forest and an electric transmission line ROW. In the

middle of the Mudlake Site is a small portion of land that will not be used as a part of the alternative site (6 acres that will be considered adjacent land).

Rabbit Road Site

The Rabbit Road Site encompasses approximately 176 acres of forested land managed for timber production. This site is relatively flat terrain and houses no roads or buildings. Majority of the land (119 acres) is mesic upland forest, although the southwestern portion of the site contains mostly bottomland hardwood forest (57 acres) with a stream system with associated tributaries (covering approximately 0.5 acres). Towards the southeastern portion of the site is a small agricultural field covering approximately 0.7 acres, and in the northeastern and southeastern corners of the site there are bottomland hardwood forests with associated wetlands and streams.

Potential Transmission Corridor at NAS Meridian

The Potential Transmission Corridor consists of approximately 57 acres of forested land, wetland, and maintained grassland (*e.g.*, golf course fairways). There are three corridors within this area; the northern corridor runs east-west, and the two additional corridors run diagonal to form a triangle. The entire site is relatively flat. The northern corridor contains a road and an existing transmission line, as well as an existing fairway on the golf course. The western corridor runs from the northwest to the southeast and crosses a large wetland complex; the eastern corridor runs from the northeast to the southwest and crosses forestland, wetlands, and a golf course fairway before connecting to the western corridor.

SW Site at NOLF Joe Williams

The SW Site at NOLF Joe Williams consists of 158 acres, and is mostly comprised of forested land that is managed for timber production. This alternative site is directly adjacent to an 8,000-foot runway. The majority of the site is mesic upland forest (91 acres). Interspersed throughout the site are bottomland hardwood forests (55 acres) with associated wetlands and stream systems.

NE Site at NOLF Joe Williams

The NE Site at NOLF Joe Williams consists of approximately 280 acres of mostly forested land, with recently clear-cut and replanted areas. Majority of the site is mesic upland forest (136 acres), with dry-mesic upland forest in the northeast and southern portions of the site. The site also contains several ponds, a drainage channel, multiple limited-access roads, and two lacustrine systems.

Potential Transmission Corridor at NOLF Joe Williams

The Potential Transmission Corridor at NOLF Joe Williams consists of approximately 16 acres of rolling hills that consist of mowed grassland in the airfield clear zone at the foot of the 8,000-foot runway. The corridor runs from the eastern corner of the SW site, northeast to the southeastern corner of the NE site and crosses two wetlands and three streams.

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2 Methodology

2.1 Introduction

The pre-jurisdictional delineation for the proposed alternative sites at NAS Meridian and NOLF Joe Williams required identifying and delineating all hydrologic features (*i.e.*, wetlands, streams, and ponds). The regulatory basis of delineation of surface waters is the "waters of the United States" and is presented in Section 2.2. The ordinary high water mark (OHWM) definition is used to identify boundaries of water features other than wetlands, such as stream channels and unvegetated ponds, and is described in Section 2.3. Definitions and methods used to delineate wetlands and other surface waters are described in Section 2.4. Section 2.5 describes classifications of wetlands using *The Classification of Wetlands and Deepwater Habitats of the U.S.* (Cowardin et al. 1979). Section 2.6 describes the desktop analysis conducted prior to fieldwork. Section 2.7 presents methods and definitions used to identify wetland boundaries.

2.2 Waters of the United States

E & E biologists identified and classified all wetlands and water features within the Project Areas. A subset of these mapped units, waters of the United States, is under the regulatory jurisdiction of the CWA. Although the EPA is currently considering changes to the definition of "waters of the United States" EPA 2015, the current definition is as follows:

- All waters which are currently used, were used in the past, or may be susceptible to use interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters, including interstate wetlands;
- All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    iii. Which are used or could be used for industrial purpose by industries in interstate commerce.
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- All tributaries of traditional navigable water, interstate water, the territorial seas or impoundment; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) (33 CFR Part 328. Section 328.3).

The above definition provides practical guidance in the preliminary determination of a given water feature as jurisdictional under the CWA. The widest extent of these jurisdictional water features is determined by the OHWM, as described in Section 2.3. All other water features not meeting the above definition are considered "other waters" by the EPA and are not jurisdictional under the CWA (EPA 2014).

2.3 Determination of Ordinary High Water Mark (OHWM): Stream Channels and Other Waterbodies

Hydrologic features other than wetlands (*i.e.,* stream channels and un-vegetated ponds) were delineated by identifying the OHWM. The USACE defines OHWM for purposes of the CWA lateral jurisdiction at 33 CFR 328.3:

> *The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*

Guidance from the USACE indicates that the following physical characteristics should be considered when making an OHWM determination, to the extent that they can be identified and are deemed reasonably reliable (USACE 2007):

- Natural line impressed on the bank;
- Shelving;
- Changes in the character of soil;
- Destruction of terrestrial vegetation;
- Presence of litter and debris;
- Wracking;
- Vegetation matted down, bent, or absent;
- Sediment sorting;
- Leaf litter disturbed or washed away;
- Scour;
- Deposition;
- Multiple observed flow events;
- Bed and banks;
- Water staining; and
- Change in plant community.

2.4 Wetland Definition and Identification Criteria

The regulatory definition of wetlands is:

> *Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, bogs, marshes, and similar areas,* 40 Code of Federal Regulations [CFR] 230.3, 33 and 328.3. *Federal Register* 1982).

Field teams used established delineation procedures as enumerated in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE 2010) to identify and delineate wetlands within the environmental survey areas. According to the USACE 1987 manual, an area must exhibit evidence of at least one positive wetland indicator from each of the following parameters to be defined as a wetland:

Soils. The substrate is predominantly undrained hydric soil, or the soils possess characteristics that are associated with reducing soil conditions.

Hydrology. The area is inundated either permanently or periodically at a mean water depth of less than 6.6 feet, or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation.

Vegetation. The land predominantly supports hydrophytes. Hydrophytes are macrophytic plants with the ability to grow in water or on a substrate that is at least periodically deficient in oxygen.

2.4.1 Characteristics of Hydric Soils

Hydric soils are defined as flooded soils, ponded soils, or soils that are saturated long enough during the growing season to develop anaerobic conditions in the soil profile's upper portion (U.S. Department of Agriculture [USDA] Soil Conservation Service 1991). Anaerobic conditions are created when flooding, ponding, or saturation is of sufficient duration to result in the absence of oxygen from the environment. These soils usually support hydrophytic vegetation as well. The National Technical Committee for Hydric Soils has developed criteria for hydric soils and published a list of the nation's hydric soil types (USDA Soil Conservation Service 1991). Due to saturated conditions during the growing season, hydric soils typically develop morphological features that can be observed in the field. A prolonged anaerobic environment typically lowers soil redox potential and causes a chemical reduction of soil components, such as iron and manganese oxides. This reduction affects movement, solubility, and aggregations of oxides, which are reflected in the color of the soil.

Depth and duration of soil saturation are used to identify wetlands and hydric soils. Physical features of the soil, such as color, are commonly used to indicate long-term soil moisture regimes. The most widely recognized colors reflecting wetness of mineral soils are low chromas (grayish) with or without redox features (concentrations or depletions) including iron/manganese soft masses or pore linings. Redox concentrations are the areas of oxidized iron that have become concentrated in patches and along root channels and other pores after soils have reverted to an aerobic state (Federal Interagency Committee for Wetland Delineation 1989). The areas that have lost iron, which typically develop characteristic gray or reddish-gray colors, are referred to as redox depletions.

Subsurface horizons in hydric soils are typically a neutral gray color, and occasionally greenish or bluish. The distinctive colors are a result of gleization. In this process, prolonged saturation of mineral soil converts iron from its oxidized (ferric) form to its reduced (ferrous) state. The reduced compounds may be completely removed from the soil, resulting in low chromas. Mineral soils always saturated are uniformly gleyed throughout the saturated zone. Soils gleyed to the upper surface layer (within 12 inches of the surface) are hydric soils.

Alternately saturated and oxidized (aerated) mineral soils are usually mottled in the part of soil that is seasonally wet. Mottles can be descried as spots or blotches of contrasting colors or shades of colors interspersed within the dominant (matrix) color. Mottle abundance, size, and color usually reflect the duration of the saturation period. Mineral soils that are predominantly grayish with brown or yellow mottles in the upper 20 inches are usually saturated for long periods during the growing season. These

soils are commonly classified as hydric. Color chromas of two or less using the Munsell color system are considered "low chromas" and are often diagnostic of hydric soils (Munsell Color 2009). Hydric soils may include (but are not limited to): 5YR 5/1 and 10YR 4/2. Low chroma colors include black, various shades of gray, and darker shades of brown and red. Predominantly brown or yellow soils with few gray mottles may be saturated for shorter periods and are not generally hydric. Never saturated mineral soils are typically brightly colored and not mottled. Examples may include: 5YR 5/4 and 10YR 7/3.

2.4.2 Characteristics of Wetland Hydrology

Wetland formation is hydrologically forced by permanent or periodic inundation (at least seasonally saturated soil within the rooting zone). The presence of water for 5 percent or more of the growing season typically creates an anaerobic condition in the soil, affecting the types of plants that grow and the types of soils that develop (Environmental Laboratory 1987).

Wetland hydrology is often the least exact and most difficult to characterize (of the three technical criteria for wetland identification). This is due to annual, seasonal, and daily fluctuations in water level (Federal Interagency Committee for Wetland Delineation 1989). When the soil is saturated within the rooting zone (typically within 12 inches of the surface) for at least 5 percent of the growing season, the area is considered to have wetland hydrology.

The following factors can influence the wetness of an area: precipitation, stratigraphy (*i.e.*, layering), topography, micro relief, and soil permeability. Water found in wetlands may come from any of the following: direct precipitation, overbank flooding, surface water runoff, groundwater discharge, or tidal flooding. Frequency and duration of inundation and soil saturation varies widely from permanent flooding or saturation to intermittent flooding or saturation. The most important factor affecting soils and vegetation is duration. The permeability of the soil (which is affected by soil texture and density) also has an influence on the duration of inundation or soil saturation. For example, soils with high clay content typically have lower permeability, absorb water slower, and therefore remain saturated for a longer period of time than sandy or loamy soils.

Water table is defined by the USACE as the upper surface of groundwater or the level below which the soil is saturated with water (Environmental Laboratory 1987). A water table is typically a minimum of 6 inches thick and persists in the soil for more than a few weeks. Field indicators used as evidence of wetland hydrology include OHWMs, drift lines, drainage patterns, water marks, sediment deposition, vegetation morphology (*e.g.*, adventitious roots), and presence or absence of algae or moss.

2.4.3 Characteristics of Hydrophytic Vegetation

Hydrophytic vegetation is defined as macrophytic plant life growing in water or soil or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content (Environmental Laboratory 1987). Vascular plants are classified into five groups according to their affinity for wetland areas. The group to which a particular species is assigned determines its indicator status (*i.e.*, probability of being found in a wetland). The vegetation indicator status ratings are defined below (Federal Interagency Committee of Wetland Delineation 1989):

Obligate Wetland. Plants occur almost exclusively under natural conditions in wetlands (estimated probability >99 percent).

Facultative Wetland. Plants usually occur in wetlands (estimated probability of 67 to 99 percent) but are occasionally found in non-wetlands.

Facultative. Plants are equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66 percent).

Facultative Upland. Plants usually occur in non-wetlands (estimated probability 67 to 99 percent) but are occasionally found in wetlands (estimated probability 1 to 33 percent).

Obligate Upland. Plants may occur in wetlands in another region but almost always occur under natural conditions in non-wetlands in the region specified (estimated probability of >99 percent).

The stated indicator categories for wetlands should not be equated to degrees of wetness. For example, many obligate wetland species occur in permanently or semi-permanently flooded wetlands, but a number also occur in (or are restricted to) temporarily or seasonally flooded wetlands. Occurrence frequency of a species in wetlands may be anywhere within the frequency range of the indicator category. A species, for example, that is assigned to the facultative upland indicator category may actually have a frequency toward the lower end of the category, while another species may have a frequency toward the upper end of the category (Reed 1996).

Hydrophytic vegetation presence is determined using wetland indicator status' of species encountered. Hydrophytic plants are those rated as facultative wetland species, or wetter as defined by the National Wetland Plant List: 2014 Update of Wetland Ratings (Lichvar et al. 2014). Wetland boundaries are identified based on the presence of a wetland plant community rather than any one particular indicator species. A plant community, for example, with scattered individual upland species but dominated by hydrophytic species, is considered to be a wetland plant community. Within each wetland, specific communities are determined on the basis of their dominant plant species, soils, and hydrology.

2.5 Classification

Wetlands and waterbodies delineated in the NAS Meridian alternative sites were classified using the U.S. Fish and Wildlife Survey (USFWS) wetland and deepwater habitat classification system (Cowardin et al. 1979). The highest level of this hierarchical classification is the system level, where wetlands and deepwater habitats are grouped into systems that share the influence of hydrologic, geomorphologic, chemical, and biological factors. The five Cowardin et al. (1979) ecological systems are:

Palustrine systems. These systems are shallow ponds and wet areas, including all non-tidal wetlands dominated by trees, shrubs, persistent emergent, emergent mosses, or lichens. This system also includes wetlands lacking such vegetation, but with all of the following characteristics: 1) total area is less than 20 acres; 2) active wave-formed or bedrock shoreline features are lacking; 3) water depth in the deepest part of the basin is less than 6.6 feet at low water; and 4) salinity (due to ocean-derived salts) is less than 0.5 parts per thousand.

Lacustrine systems. These systems are lakes and deep ponds and include wetlands and deepwater habitats with all of the following characteristics: situated in a topographic depression or a damned river channel; trees, shrubs, persistent emergent, emergent mosses, or lichens with less than 30 percent areal coverage; total area exceeds 20 acres. Similar wetland and deepwater habitats totally less than 20 acres are also included in the lacustrine system if an active wave-formed or bedrock shoreline feature makes up all or part of the boundary or if the water depth in the deepest part of the basin exceeds 6.6 feet at low water. Lacustrine waters may be tidal or non-tidal, but ocean-derived salinity is always less than 0.5 parts per thousand.

Marine systems. These systems consist of open ocean overlying the continental shelf and its associated high-energy coastline. Marine habitats are exposed to the waves and currents of the open ocean, and the

water regimes are determined primarily by the ebb and flow of oceanic tides. Salinities exceed 30 parts per thousand, with little or no dilution, except outside the mouths of estuaries. Shallow coastal indentations or bays without appreciable freshwater inflow and coasts with exposed rocky islands that provide the mainland with little or no shelter from wind and waves are also considered part of the marine system because they generally support typical marine biota.

Estuarine systems. These systems consist of deepwater tidal habitats and their adjacent tidal wetlands, which are usually semi-enclosed by land but have open, partly obstructed, or sporadic access to the open ocean and in which ocean water is at least occasionally diluted by freshwater runoff from the land. The salinity may periodically increase above that of the open ocean by evaporation. Along some low-energy coastlines, there is appreciable dilution of seawater. Offshore areas with typical estuarine plants and animals are also included in this system.

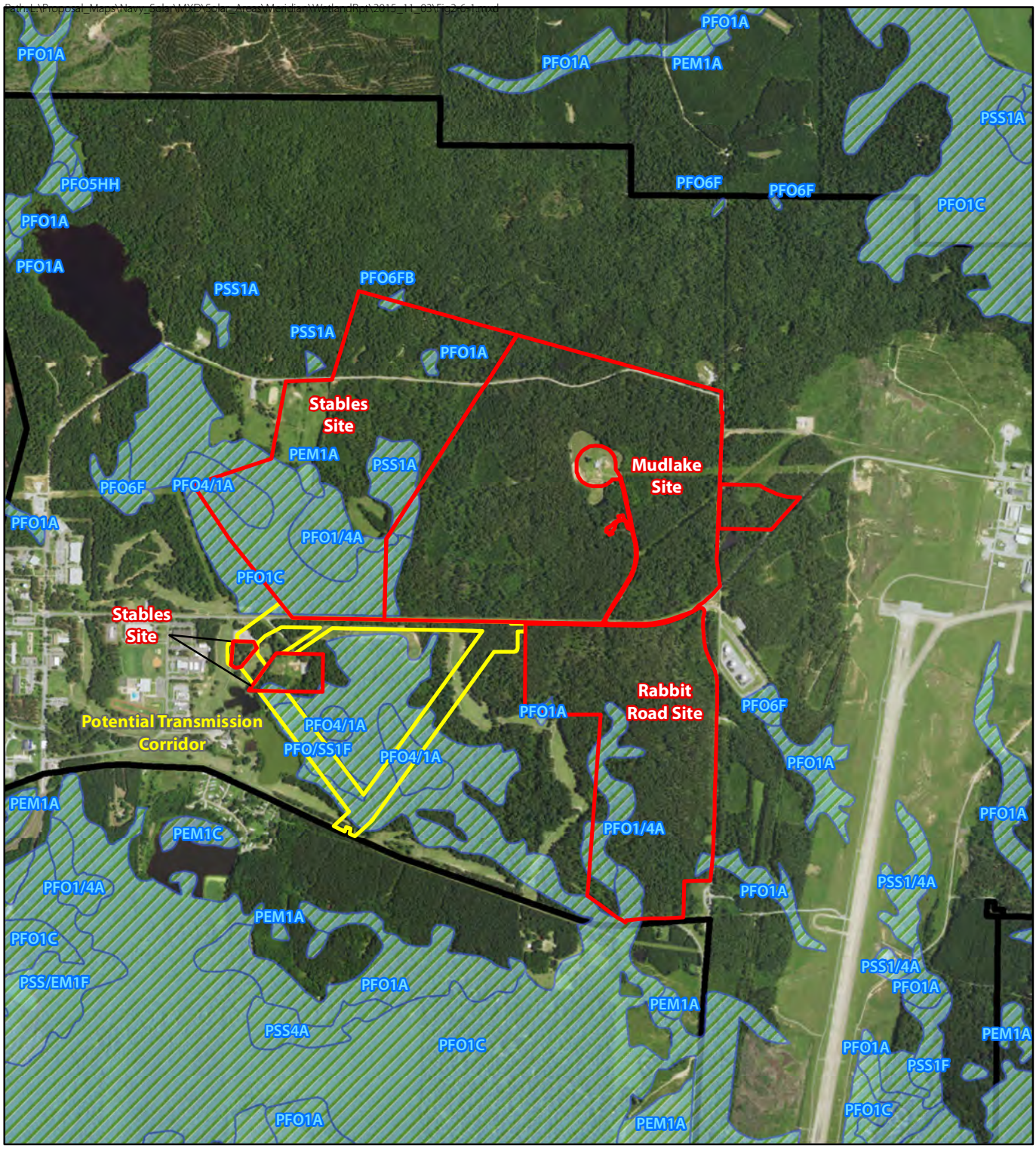
Riverine systems. These systems include all wetlands and deepwater habitats contained within a channel, except: wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens; and habitats with water containing ocean-derived salts in excess of 0.5 parts per thousand.

Systems are then divided into more specific categories called subsystems, such as the subtidal and intertidal subsystems in the marine and estuarine systems. There are no subsystems in the palustrine system. The classification system further subdivides wetlands into different classes based on general appearance of the life form in the plant community (*e.g.*, trees, shrubs, and aquatic vegetation) or the physiography and composition of the substrate (*e.g.*, rocky shore, unconsolidated shore, and streambed). The forested wetland class is characterized by woody vegetation that is 19.7 feet or taller and greater than 3 inches in diameter at breast height. The scrub-shrub wetland class is dominated by multi-stemmed woody vegetation less than 19.7 feet in height. This class includes shrubs, sapling trees, and trees that are small or stunted due to environmental conditions. The emergent wetland class consists of erect, rooted, herbaceous vascular plants but excludes mosses and lichens.

The determination of wetland classes is based on the following criteria: if vegetation covers 30 percent or more of the substrate, then the class is distinguished on the basis of the life form of the plants that constitutes the uppermost layer of vegetation and that possesses areal coverage of 30 percent or greater. For example, an area with 50-percent areal coverage of trees over a shrub layer with 60-percent areal coverage would be classified as forested wetland; an area with 20-percent areal coverage of trees over the same (60 percent) shrub layer would be classified as scrub-shrub wetland. When trees or shrubs alone cover less than 30 percent of an area but in combination cover 30 percent or more, the wetland would be assigned to the scrub-shrub class. When trees and shrubs together cover less than 30 percent of the area but the total cover of vegetation is 30 percent or greater, the wetland would be assigned to the appropriate class for the predominant life form below the shrub layer.

2.6 Pre-field Evaluation

Before initiating fieldwork, E & E biologists reviewed background reference materials and publically available ancillary data sources. These materials included U.S. Geological Survey (USGS) topographic maps (Lauderdale quadrangle for NAS Meridian and Lynville quadrangle for NOLF Joe Williams). Google Earth aerial images, the National Wetland Inventory (see Figure 2.6-1 and Figure 2.6-2) (USFWS 2014), the National Hydrography Dataset (USGS 2014) (see Figure 2.6-3 and Figure 2.6-4), the National Cooperative Soil Survey's web soil survey (Natural Resource Conservation Service [NRCS] 2015) (see Figure 2.6-5 and Figure 2.6-6), the Federal Emergency Management Agency (FEMA; FEMA 2015) and National Flood Hazard Layer (ESRI 2015).



N

SCALE

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Service Layer Credits: ESRI Basemap 2015, USFWS NWI 2015 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

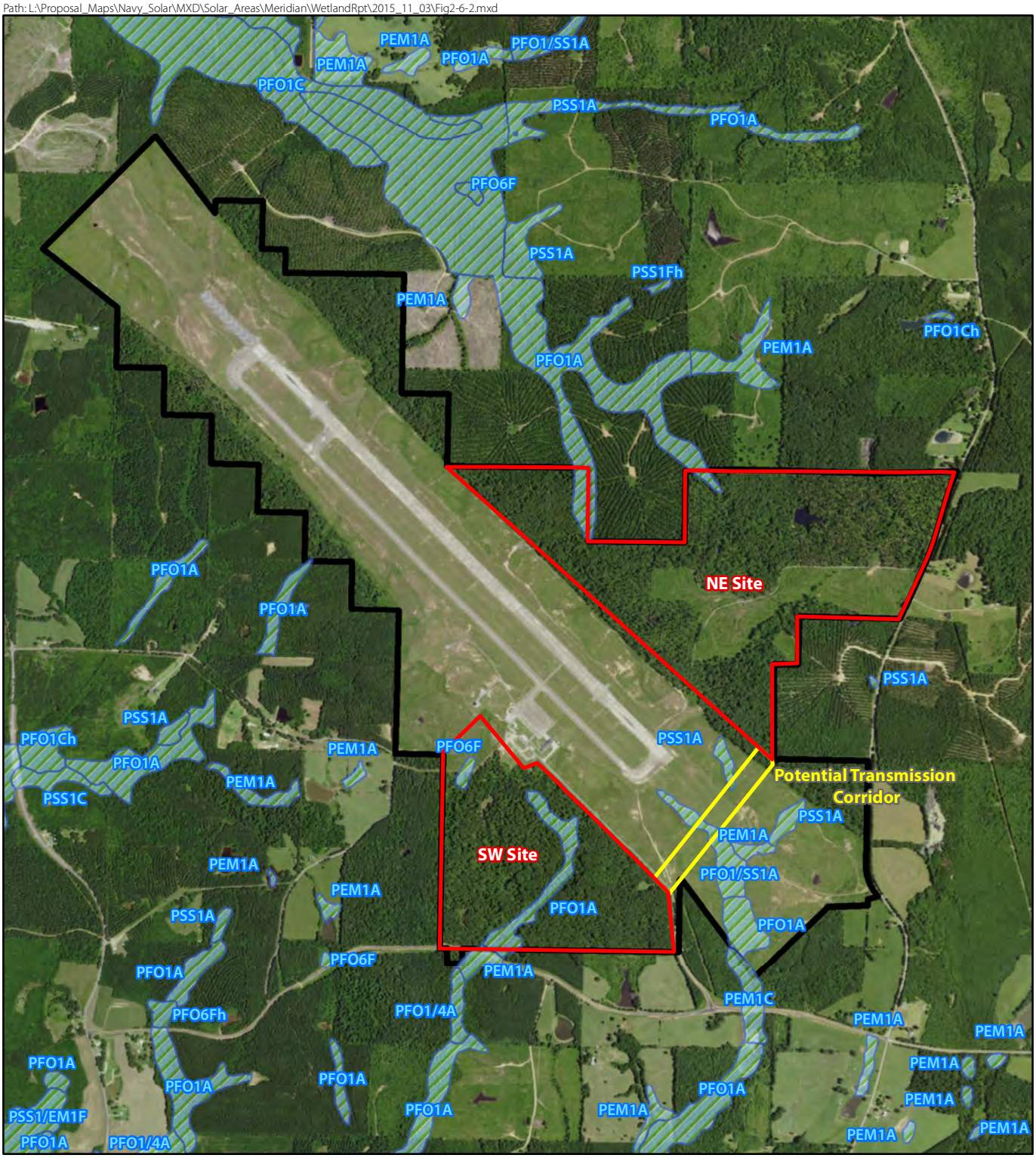
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- NWI Wetlands

Figure 2.6-1

National Wetland Inventory Map at NAS Meridian

Lauderdale County, Mississippi

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SCALE

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Service Layer Credits: ESRI Basemap 2015, USFWS NWI 2015 Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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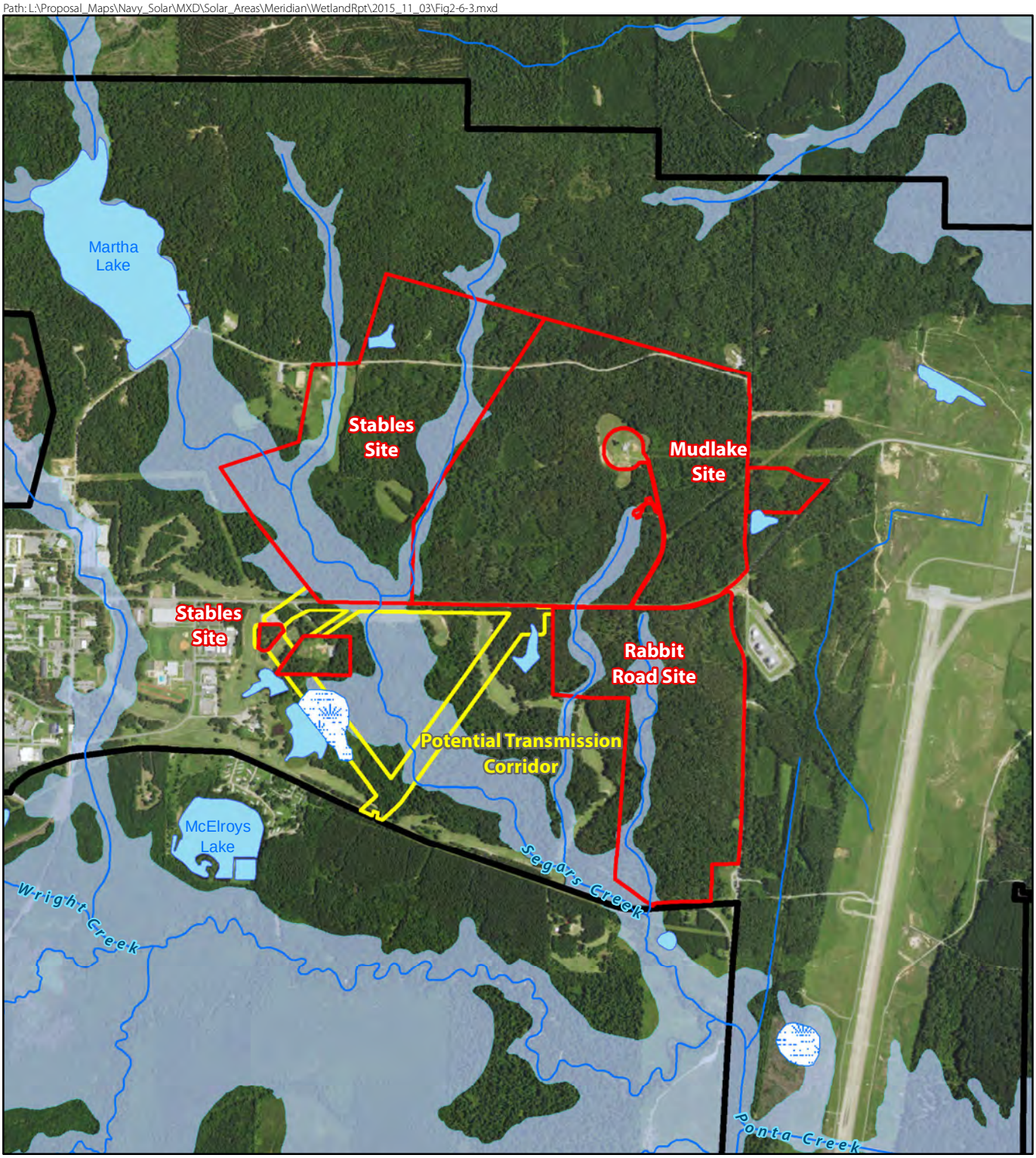
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- NWI Wetlands

Figure 2.6-2

National Wetland Inventory Map at NOLF Joe Williams

Kemper County, Mississippi

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Service Layer Credits: ESRI Basemap 2015, FEMA 2010, NHD 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Lake/Pond (National Hydrography Dataset)
- Swamp/Marsh ((National Hydrography Dataset))
- Stream (National Hydrography Dataset)

FEMA Flood Zone

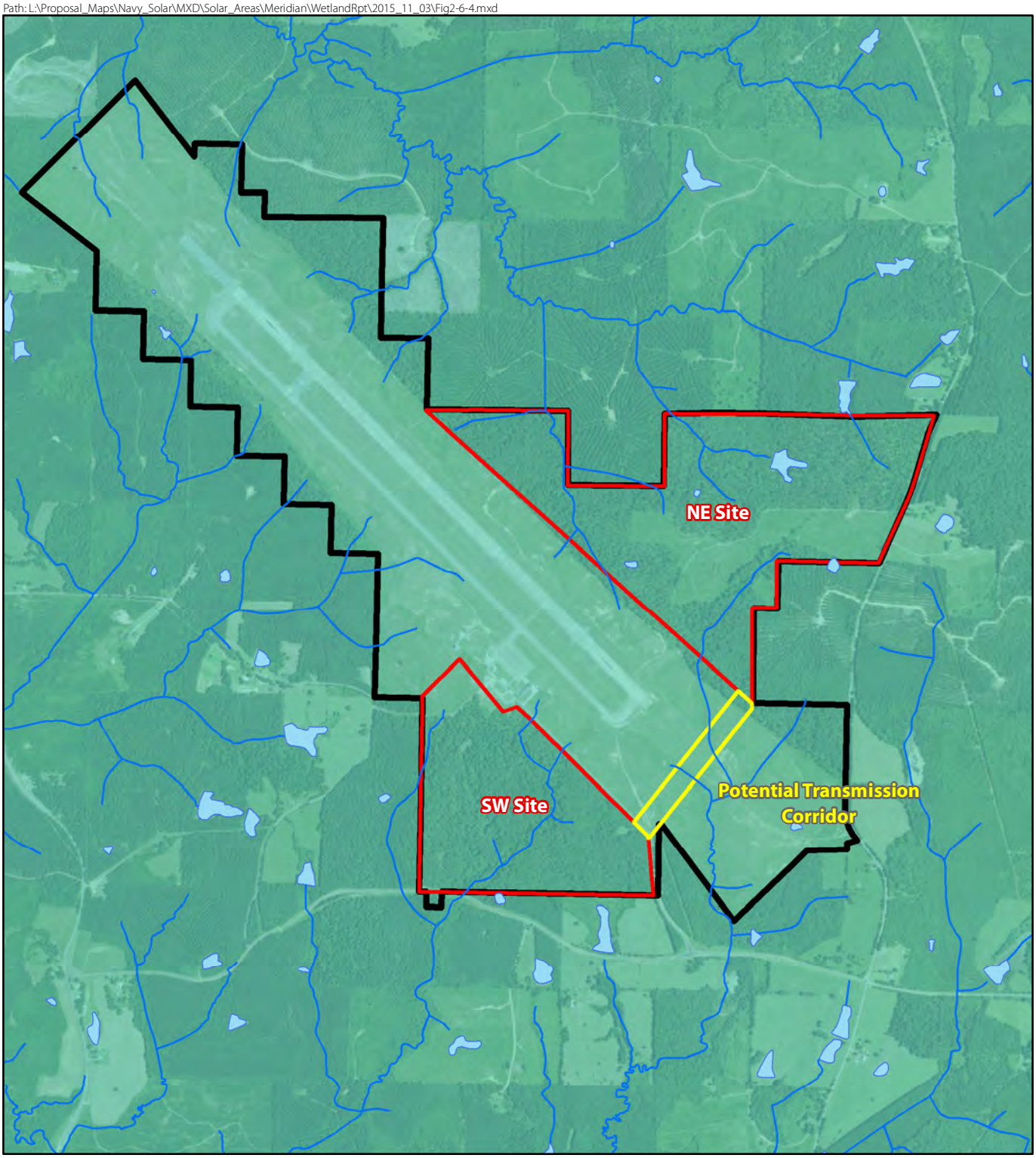
- A (1% annual chance flood event)

Figure 2-6-3

National Hydrography Dataset Map of Surface Waters and Floodplains at NAS Meridian

Lauderdale County, Mississippi

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SCALE

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Service Layer Credits: ESRI Basemap 2015, NHD 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Lake/Pond (National Hydrography Dataset)
- Stream (National Hydrography Dataset)

FEMA Flood Hazard

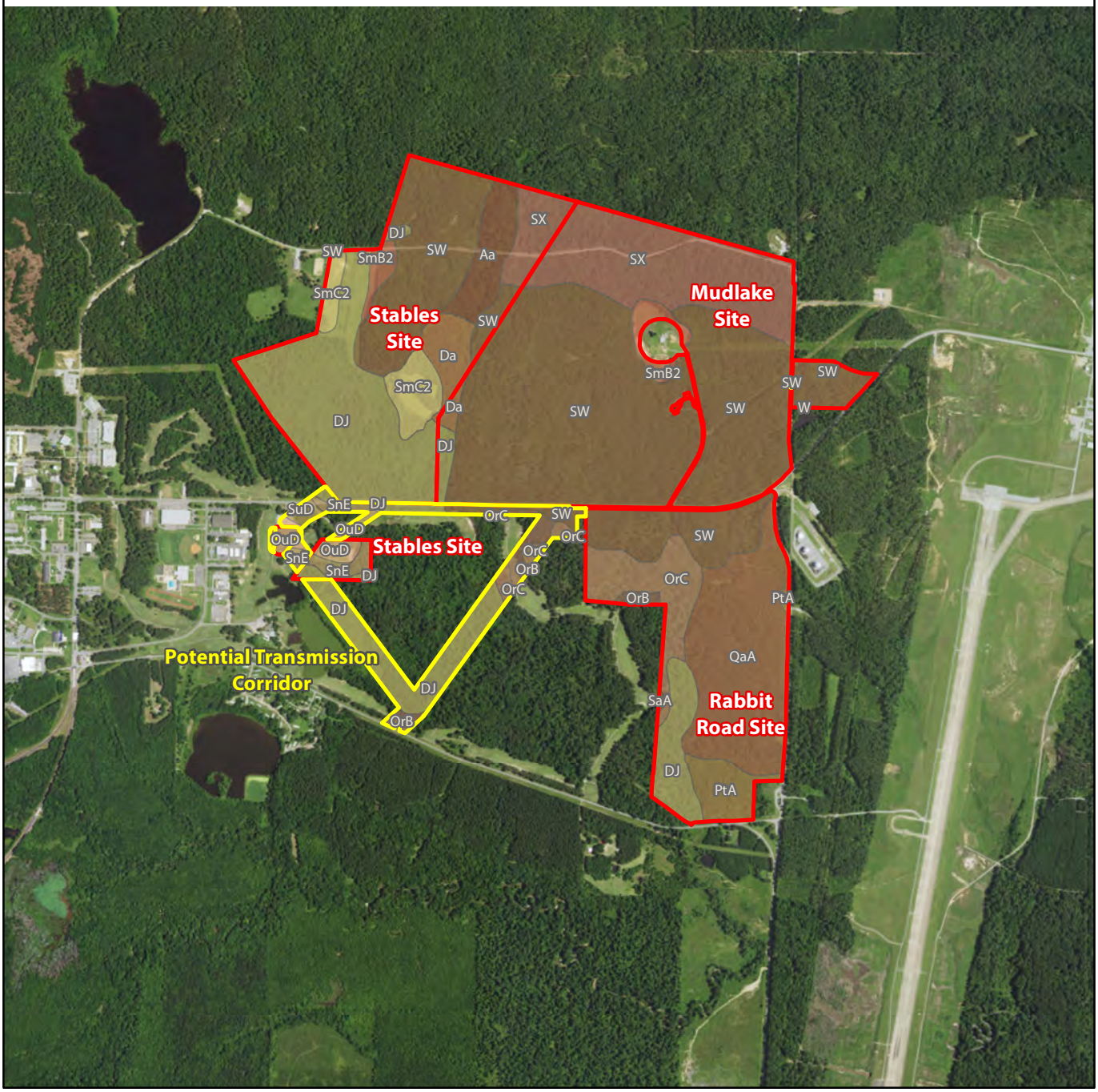
- X

Figure 2.6-4

National Hydrography Dataset Map of Surface Waters and Floodplains at NOLF Joe Williams

Kemper County, Mississippi

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SCALE

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Service Layer Credits: ESRI Basemap 2015, NRCS SSURGO 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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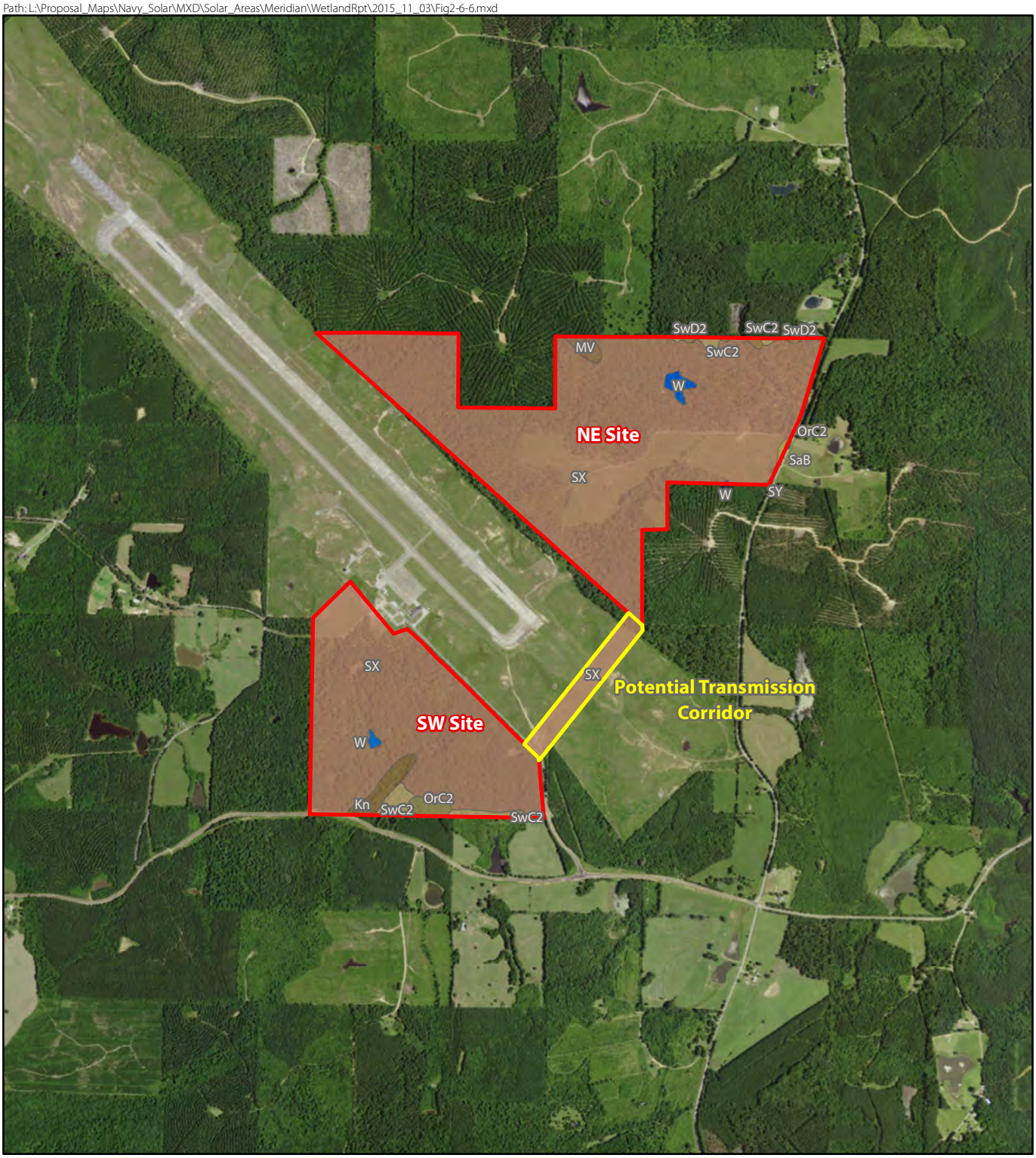
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Aa;Annemaine fine sandy loam
- DJ;Daleville-Jena association, frequently flooded
- Da;Daleville loam, occasionally flooded
- OrB;Ora fine sandy loam, 2 to 5 percent slopes
- OrC;Ora fine sandy loam, 5 to 8 percent slopes
- OuD;Ora-Urban land complex, 5 to 12 percent slopes
- PtA;Prentiss fine sandy loam, 0 to 2 percent slopes
- QaA;Quitman loam, 0 to 2 percent slopes
- SW;Sweatman association, 5 to 35 percent slopes
- SX;Sweatman-Smithdale association, hilly
- SaA;Savannah fine sandy loam, 0 to 2 percent slopes
- SmB2;Sweatman fine sandy loam, 2 to 5 percent slopes, eroded
- SmC2;Sweatman fine sandy loam, 5 to 8 percent slopes, eroded
- SnE;Sweatman-Smithdale complex, 5 to 25 percent slopes
- SuD;Sweatman-Urban land complex, 5 to 15 percent slopes
- W;Water

Figure 2.6-5

Soils at NAS Meridian

Lauderdale County, Mississippi

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SCALE

0 1,500 3,000 Feet

Service Layer Credits: ESRI Basemap 2015, NRCS SSURGO 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Kn;Kinston loam, occasionally flooded
- MV;Mooreville-Kinston-Mantachie association, frequently flooded
- OrC2;Ora fine sandy loam, 5 to 8 percent slopes, eroded
- SX;Sweatman-Smithdale association, 5 to 12 percent slopes
- SY;Sweatman-Smithdale association, 12 to 35 percent slopes
- SaB;Savannah fine sandy loam, 2 to 5 percent slopes
- SwC2;Sweatman fine sandy loam, 5 to 8 percent slopes, eroded
- SwD2;Sweatman fine sandy loam, 8 to 12 percent slopes, eroded
- W;Water

Figure 2.6-6

Soils at NOLF Joe Williams

Kemper County, Mississippi

2.7 Field Evaluation

A wetland delineation of the alternative sites was conducted by E & E from January 28 to February 14, 2015, and from October 19 to 22, 2015, to identify and delineate wetlands and other waterbodies or waterways. The majority of this wetland delineation occurred outside of the defined growing season for the NAS Meridian alternative sites per the NRCS climate data presented in Section 1.3.1. The assessment of the hydrophytic vegetation parameter is based upon species identification and percent covers of the senesced vegetation community, and therefore the wetland delineation represents best professional judgment at the time of sampling.

2.7.1 Wetlands

Wetlands were delineated based upon the methodology outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the subsequently issued *Regional Supplement for the Atlantic and Gulf Coastal Plain Region* (USACE 2010). Additionally, the USACE regulatory guidance letter, OHWM Identification, regarding the identification of jurisdictional stream channels through the recognition of field indicators of an OHWM within drainage features, was used for stream channel identification (USACE 2007).

Wetland boundaries were flagged with consecutively numbered pink ribbon at all vertices and were located with sub-meter-accuracy Global Positioning System (GPS) units. Field data stations were established in each wetland and in adjacent upland areas to document upland and wetland conditions existing along the jurisdictional boundary. Photographs of the field data stations to depict existing site conditions along the jurisdictional boundaries are located in Appendix A and B.

Field data collected during the delineation were recorded on "Wetland Determination Data Form-Atlantic and Gulf Coastal Plain Region" datasheets (see Appendices A-1 and B-1). Datasheets for the corresponding wetland and upland data stations are paired within the appendices. Upland data stations are identified with the suffix "UPL." In general, in the process of completing the wetland delineation as noted in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the following activities at each location assisted in the verification of the presence of a wetland and the wetland boundaries:

- Hydrological characteristics of the area were assessed to determine the capability of the area to pond surface water and to support possible inflow and outflow of water or to be saturated in the upper 12 inches of soil for one week or more of the growing season. Evidence of hydrology included: ground inundation, soil saturation, oxidized root channels, water marks, drift lines, sediment deposits, water-stained leaves, surface scouring, drainage patterns, morphological adaptations, and hydric soils (in the absence of other indicators).
- Plant species that were observed in the wetland and adjacent upland areas assisted in delineating the wetland boundaries. The dominant plant species, along with their indicator status, were recorded. A sample plot may have hydrophytic vegetation if more than 50 percent of dominant species are facultative or wetter, the prevalence index calculation is less than 3.00, or hydric soils and hydrology are present.
- Soil survey pits were dug using a shovel to approximately 14 inches or until cobbles were reached to help determine the presence of hydric soils and the boundaries of wetlands. The depth to the water table was recorded after a few minutes (allowing for the water table to stabilize) if it was encountered within the soil pit. The soil profile was described using the standard classification system (USDA Soil Conservation Service 1991). Soil color was described using Munsell Color charts (2009).

- Each wetland was classified according to the USFWS hierarchical classification system developed by Cowardin et al. (1979).

2.7.2 Waters of the United States and Other Waters

Qualitative assessments were completed for all waters within the site, including both waters of the United States and other waters. Streams were assessed if they showed evidence of water scour and exhibited defined banks and channel. Streams and hydrologic features were documented using a sub-meter-accuracy GPS unit, taking data point flags (centerline of streams and ditches at all vertices and around the perimeters of hydrologic features such as reservoirs and ponds). Photographs were taken and a data form was completed at each stream feature.

During field surveys, these waterways, washes, and ditches were identified based on the presence of OHWM criteria *(e.g.,* changes in the character of the soil, shelving, sediment deposition, scour, and destruction of terrestrial vegetation) and defined banks and channel. Intermittent and ephemeral stream waterways and washes were identified as waterbody waterways having little or no flow during the survey dry periods but as having the potential to have high flow during and after a heavy rain event. Perennial streams and waterways were defined by moderate to high flows during the surveys. Drains were identified as areas that convey water, either natural or through a man-made ditch design, but do not have a discernable bed/bank or OHWM. Only locational information was compiled for drains, but no additional data were collected because these locations were determined to not meet the criteria of a water of the United States.

3 Wetland Delineation Findings

E & E biologists completed wetland jurisdictional determinations at the Project Areas of NAS Meridian and NOLF Joe Williams from January 28 to February 14, 2015 and October 19 to 22, 2015. All alternative sites (see Section 1.3.2) were surveyed during this time period.

Temperatures during the winter survey were, generally, within the average range for January/February, between 40°F and 60°F. Rainfall was judged by E & E biologists to be below average, with rainfall occurring during daytime hours only one day during the 18-day survey period. Temperatures during the fall survey were also within the average range for October, between 70°F and 80°F. There was no rainfall during the 4-day survey period in October.

3.1 Preliminary Off-site Investigation

The USGS topographic map (Lauderdale quadrangle for NAS Meridian and Lynville quadrangle for NOLF Joe Williams) was reviewed to understand general topography. Elevations at NAS Meridian alternative sites range from 200 feet above sea level in bottomlands to 380 feet above sea level on upland sites. Elevation at OLF Joe Williams ranges from 500 feet to 560 feet above sea level. Most of the land is characterized by gently sloping terrain with some relatively flat areas in the alluvial floodplains of major creeks.

Lauderdale County is divided into three topographic categories: upland regions, secondary alluvial terrace bottoms, and broad primary alluvial bottoms. Topography varies from rugged, dissected uplands with steep slopes and narrow ridge tops to broad plateau areas between major stream systems (Bennett et al. 1912). The primary alluvial bottoms are still in a process of modification by frequent overflows of tributaries, erosion, and deposition. The transition from primary to secondary bottoms is gradual. Larger streams can have broad primary bottoms a mile or more in width. Alluvial flats of smaller streams may also be wide in proportion to the size of the creeks. Intermittent branches have well-defined primary bottoms, usually with narrow stream divides that have some irregularity in direction and slope (INRMP 2001).

A review of the NRCS's National Cooperative Soil Survey has identified 18 soil map units within the Project Areas. Fifteen of those map units were hydric soils or contained hydric inclusions. Of these 15, two soil map units were considered all hydric: Daleville loam occasionally flooded; and Kinston loam occasionally flooded. Tables 3-1 and 3-2 list and describe the soil map units and hydric components within the Project Areas.

Table 3-1 Soil Map Units and Hydric Components at NAS Meridian

Map Unit Name (Symbol)	Acres	Hydric Soil Component (%)
Stables		
Annemaine fine sandy loam	19.17	3
Daleville loam, occasionally flooded	11.96	100
Daleville-Jena association frequently flooded	90.55	90
Ora-Urban land complex, 5 to 12% slopes	5.76	3
Sweatman fine sandy loam 2 to 5% slopes eroded	4.85	0
Sweatman fine sandy loam 5 to 8% slopes eroded	17.98	3
Sweatman-Smithdale complex, 5 to 25% slopes	4.51	3
Sweatman association 5 to 35% slopes	66.13	5
Sweatman-Smithdale association hilly	14.67	5

Table 3-1 Soil Map Units and Hydric Components at NAS Meridian

Map Unit Name (Symbol)	Acres	Hydric Soil Component (%)
Mudlake		
Daleville loam, occasionally flooded	2.36	100
Daleville-Jena association frequently flooded	4.09	90
Sweatman fine sandy loam 2 to 5% slopes eroded	6.62	0
Sweatman association 5 to 35% slopes	248.19	5
Sweatman-Smithdale association hilly	76.17	5
Rabbit Road		
Daleville-Jena association frequently flooded	19.23	90
Ora fine sandy loam 2 to 5% slopes	1.97	0
Ora fine sandy loam 5 to 8% slopes	27.98	5
Prentiss fine sandy loam 0 to 2% slopes	14.76	5
Quitman loam 0 to 2% slopes	79.76	5
Savannah fine sandy loam 0 to 2% slopes	0.33	0
Sweatman association 5 to 35% slopes	32.06	5
Potential Transmission Corridor		
Daleville-Jena association, frequently flooded	30.66	90
Ora fine sandy loam, 2 to 5% slopes	7.08	0
Ora fine sandy loam, 5 to 8% slopes	4.20	5
Ora-Urban land complex, 5 to 12% slopes	2.48	3
Sweatman association, 5 to 35% slopes	5.88	5
Sweatman-Smithdale complex, 5 to 25% slopes	3.91	3
Sweatman-Urban land complex, 5 to 15% slopes	2.23	3

Table 3-2 Soil Map Units and Hydric Components at NOLF Joe Williams

Map Unit Name (Symbol)	Acres	Hydric Soil Component (%)
SW Site at NOLF Joe Williams		
Kinston loam, occasionally flooded	5.55	100
Ora fine sandy loam 5 to 8% slopes eroded	2.79	5
Sweatman fine sandy loam 5 to 8% slopes eroded	5.93	3
Sweatman-Smithdale association 5 to 12% slopes	143.31	5
NE Site at NOLF Joe Williams		
Mooreville-Kinston-Mantachie association frequently flooded	2.43	30
Ora fine sandy loam 5 to 8% slopes eroded	0.08	5
Savannah fine sandy loam 2 to 5% slopes	0.67	0
Sweatman fine sandy loam 5 to 8% slopes eroded	1.54	3
Sweatman fine sandy loam 8 to 12% slopes eroded	1.10	5
Sweatman-Smithdale association 5 to 12% slopes	271.83	5
Sweatman-Smithdale association 12 to 35% slopes	0.12	5
Potential Transmission Corridor at NOLF Joe Williams		
Sweatman-Smithdale association, 5 to 12 % slopes	15.93	5

3.2 On-site Determination/Findings

E & E completed field investigations in January, February, and October 2015 and delineated all waters of the United States, including wetlands. "Other waters" were also delineated, including man-made ditches that drain uplands and other hydrologic features including man-made ponds and reservoirs. Wetlands are

discussed in Section 3.2.1, streams and drainages are discussed in Section 3.2.2, and hydrologic features are discussed in Section 3.2.3.

3.2.1 Wetlands

A total of 89.46 acres of wetlands were delineated within the NAS Meridian alternative sites (see Table 3-3) and Potential Transmission Corridor Site, and 23.39 acres of wetlands were delineated within the NOLF Joe Williams sites and the Potential Transmission Corridor Site (see Table 3-4). A total of 11 wetlands were observed at the Stables Site at NAS Meridian (see Figure 3-1). The Mudlake Site at NAS Meridian contained seven wetlands (see Figure 3-2). The Rabbit Road Site contained seven wetlands (see Figure 3-3). The Potential Transmission Corridor at NAS Meridian contained six total wetlands; wetland WW-01-028 contains an additional wetland WW-01-028A, which is connected outside of the Project Areas (see Figure 3-4). Since wetland WW-01-028A is part of wetland WW-01-028, there is no wetland or upland datasheet for wetland WW-01-028A. Three wetlands, WW-01-003, WW-01-011, and WW-01-012, overlapped into both the Stables Site and Mudlake Site. WW-01-003 was also identified within the Potential Transmission Corridor boundaries. At the NOLF Joe Williams site, the SW Site contained a total of nine wetlands (see Figure 3-5). Wetland WW-02-002 has three different community types (PEM, PSS [WW-02-002A], and PFO [WW-02-002B]). At the NE Site at NOLF Joe Williams there is a total of 31 wetlands (see Figure 3-6). Wetland WW-01-016 has an additional portion (WW-01-016A) that is separated by a small upland that extends to the east along SS-01-008B. Since wetland WW-01-016A is part of wetland WW-01-016, there is no wetland or upland datasheet for wetland WW-01-016A. The Potential Transmission Corridor at NOLF Joe Williams contained a total of two PEM wetlands, WW-05-006 and WW-05-007, connected by SS-05-009. Wetland field data sheets are provided in Appendix A-1 for NAS Meridian and B-1 for NOLF Joe Williams. Representative upland and wetland photos are provided in Appendix A-3 for NAS Meridian and B-3 for NOLF Joe Williams.

Table 3-3 Delineated Wetlands within the Project Areas at NAS Meridian

Cowardin Classification				
Wetland System ID	PEM (acre)	PSS (acre)	PFO (acre)	Total
Stables Site				
WW-01-001	-	-	1.36	1.36
WW-01-002	-	-	1.76	1.76
WW-01-003[1]	-	-	6.66	6.66
WW-01-009	-	-	0.66	0.66
WW-01-010	-	-	25.30	25.30
WW-01-011[1]	-	-	0.17	0.17
WW-01-012[1]	-	-	2.52	2.52
WW-01-023	-	-	1.53	1.53
WW-01-024	-	-	0.22	0.22
WW-02-006	-	0.62	-	0.62
WW-02-021[1]	-	-	0.05	0.05
WW-05-001	-	-	0.04	0.04
Subtotal	**-**	**0.62**	**40.27**	**40.89**
Mudlake Site				
WW-01-003[1]	-	-	3.27	3.27
WW-01-011[1]	-	-	0.41	0.41
WW-02-020	-	-	0.95	0.95
WW-03-009	-	-	0.10	0.10
WW-01-012[1]			<0.01	<0.01

Table 3-3 Delineated Wetlands within the Project Areas at NAS Meridian

Cowardin Classification				
Wetland System ID	PEM (acre)	PSS (acre)	PFO (acre)	Total
WW-05-008	-	-	0.04	0.04
WW-05-009	-	-	0.26	0.26
Subtotal	**-**	**-**	**5.02**	**5.02**
Rabbit Road Site				
WW-01-013	-	-	5.82	5.82
WW-02-007	-	-	1.05	1.05
WW-02-008	-	-	0.54	0.54
WW-02-010	-	-	2.91	2.91
WW-02-011	-	-	12.87	12.87
WW-05-002	-	-	0.70	0.70
WW-05-005	-	-	0.43	0.43
Subtotal	**-**	**-**	24.32	24.32
Potential Transmission Corridor				
WW-01-025	-	-	0.45	0.45
WW-01-026	-	-	0.10	0.10
WW-01-027	-	-	0.26	0.26
WW-01-028	-	-	4.53	4.53
WW-01-028A	-	-	0.14	0.14
WW-02-021[1]	-	-	13.60	13.60
Subtotal	-	-	19.23	19.23
Total	**-**	**0.62**	**88.84**	**89.46**

[1] Wetland overlaps on more than one site.

Table 3-4 Delineated Wetlands within the Project Areas at NOLF Joe Williams

Cowardin Classification				
Wetland System ID	PEM (acre)	PSS (acre)	PFO (acre)	Total
SW Site at NOLF Joe Williams				
WW-01-004	-	-	1.42	1.42
WW-01-005	-	-	0.61	0.61
WW-01-006	-	-	0.47	0.47
WW-01-007	-	-	0.19	0.19
WW-01-008	-	-	4.42	4.42
WW-02-002	-	-	0.72	0.72
WW-02-002A	-	0.71	-	0.71
WW-02-002B	1.19	-	-	1.19
WW-02-003	-	-	0.51	0.51
WW-02-004	-	0.29	-	0.29
WW-02-005	-	0.63	-	0.63
Subtotal	**1.19**	**1.63**	**8.3**	**11.16**
NE Site at NOLF Joe Williams				
WW-01-014	-	-	0.40	0.40
WW-01-015	-	-	0.07	0.07

Table 3-4 Delineated Wetlands within the Project Areas at NOLF Joe Williams

Cowardin Classification				
Wetland System ID	PEM (acre)	PSS (acre)	PFO (acre)	Total
WW-01-016	-	-	0.40	0.40
WW-01-016A	-	-	0.15	0.15
WW-01-017	-	-	0.74	0.74
WW-01-018	-	-	0.29	0.29
WW-01-019	-	0.24	-	0.24
WW-01-020	-	-	0.13	0.13
WW-01-021	-	-	2.70	2.70
WW-01-022	0.08	-	-	0.08
WW-02-012	-	1.08	-	1.08
WW-02-013	-	-	0.17	0.17
WW-02-014	-	0.09	-	0.09
WW-02-015	-	0.03	-	0.03
WW-02-016	-	1.39	-	1.39
WW-02-017	-	0.46	-	0.46
WW-02-018	-	0.20	-	0.20
WW-03-001	0.06	-	-	0.06
WW-03-002	0.11	-	-	0.11
WW-03-003	0.18	-	-	0.18
WW-03-004	-	-	0.19	0.19
WW-03-005	-	-	0.53	0.53
WW-03-006	-	-	0.37	0.37
WW-03-007	-	-	0.08	0.08
WW-03-008	-	-	1.32	1.32
Subtotal	**0.43**	**3.49**	**7.54**	**11.47**
Potential Transmission Corridor at NOLF Joe Williams				
WW-05-006	0.73	-	-	0.73
WW-05-007	0.03	-	-	0.03
Subtotal	**0.76**	-	-	**0.76**
Total	**2.38**	**5.12**	**15.88**	**23.39**

There is a total of 32 wetland polygons on the three NAS Meridian sites and the Potential Transmission Corridor. Four of these polygons are smaller portions of larger wetlands that cross one or more site boundaries. Therefore, there are a total of 28 wetlands at the NAS Meridian sites including the Potential Transmission Corridor. There are 38 wetlands at NOLF Joe Williams.

As noted in Section 1.3.1, the majority of this wetland delineation was completed outside of the growing season. As a result, herbaceous vegetation was difficult to identify. Although many of the herbaceous species were senesced, observations of the previous year's growth were utilized to identify herbaceous species when possible.

3.2.2 Streams and Drainages

E & E biologists identified 92 unique stream reaches (49 at NAS Meridian and 43 at NOLF Joe Williams); all delineated stream features are presented on Figures 3-1 through 3-6, for each alternative site (see Tables 3-5 and 3-6). Stream field data sheets for NAS Meridian are provided in Appendix A-2

for NAS Meridian and B-2 for NOLF Joe Williams. For some tributaries of streams that exhibited similar characteristics to the main stream or another tributary for which datasheets were collected, field teams did not complete multiple datasheets and, instead, relied upon one representative datasheet to represent all similar streams in the same tributary system. Representative stream photos are provided in Appendix A-4 for NAS Meridian and B-4 for NOLF Joe Williams. Most of the delineated stream channels at NAS Meridian eventually connect to the Sucarnoochee River, which eventually flows into the Tombigbee River, both of which would be considered navigable waterbodies. All of the delineated stream channels at NOLF Joe Williams, eventually connect to the Bogue Chitto River, which flows into the Pearl River, both of which are considered navigable waterbodies.

A total of 33 drains or drainageways were observed at NAS Meridian and NOLF Joe Williams (see Table 3-7). Most of these features appear to be related to former irrigation or drainage ditches that were created with past farming or land use activities. None of the features contained classic signs of ordinary high water marks, and typically were a continuous channel with berms on both sides from prior excavation. The most drains were found at the Mudlake site (15), followed by the Potential Transmission Corridor Site at NAS Meridian.

Within the Rabbit Road site, E & E delineated a drain, originally called DD-02-001, which bisected wetlands WW-02-008 and WW-02-007. This drain connects to stream SS-02-005 to the west and extends off the Rabbit Road site to the east where it eventually flows into Punta Creek. E & E did not observe a defined bed and bank throughout this area, but after further discussions with the USACE, this feature was changed to a stream (from DD-02-001 to stream SS-02-005A) to more clearly indicate the drainage connection to the off-site stream draining to the east of the site and ultimately into Punta Creek.

3.2.3 Hydrological Features

E & E identified a total of eight hydrologic features in the Project Areas (see Table 3-8). At NAS Meridian, one < 0.1 acre stock pond (HY-02-001) was present which was not connected to a stream but, based on topographic contours, appeared to have potential for hydrologic connection to WW-02-006 (see Figure 3-1).

At the NOLF Joe Williams site, a total of seven hydrologic features were observed, totaling approximately 3 acres. These features included one reservoir, situated along SS-031-001B (see Figure 3-6). The remaining six features, were all stock ponds, which were all located along an existing stream channel (see Figure 3-6).

Table 3-5 Summary of Streams at NAS Meridian

Stream ID	Linear Feet	Ephemeral	Intermittent	Perennial
Stables Site				
SS-01-001	104			X
SS-01-004	441		X	
SS-01-004A[1]	80		X	
SS-01-004B	168		X	
SS-01-005	1,288			X
SS-01-005A	375			X
SS-01-005B	395		X	
SS-01-005B2	42		X	
SS-01-005C	319		X	
SS-01-005D	272		X	
SS-01-006	147		X	
SS-01-007	480	X		

Table 3-5 Summary of Streams at NAS Meridian

Stream ID	Linear Feet	Ephemeral	Intermittent	Perennial
SS-02-004	1,728		X	
SS-02-018	298		X	
SS-03-009	993			X
SS-03-010	700		X	
SS-03-011	907			X
SS-05-002	332	X		
Mudlake Site				
SS-01-007	488	X		
SS-02-003	170		X	
SS-02-003A[1]	636	X		
SS-02-016	663	X		
SS-02-017	1,160		X	
SS-03-012	382	X		X
SS-03-013	3,397	X		X
SS-03-014	589	X		X
SS-03-015	1,307		X	
SS-03-015A[1]	501		X	
SS-03-016	835		X	
SS-05-008	221	X		
SS-05-011	204	X		
SS-05-012	73	X		
SS-05-013	124	X		
Rabbit Road Site				
SS-02-005	593		X	
SS-02-005A	879	X		
SS-02-006	2,454		X	
SS-02-007	277		X	
SS-02-008	230	X		
SS-02-009	1,547		X	
SS-02-009A[1]	255	X		
SS-02-009B[1]	22	X		
SS-02-010	720		X	
SS-03-013	1,202			X
SS-05-003	334	X		
SS-05-005	192	X		
SS-05-007	553	X		
Potential Transmission Corridor				
SS-01-005	131			X
SS-01-010	971			X
SS-01-011	121			X
SS-01-012	391			X

Table 3-5 Summary of Streams at NAS Meridian

Stream ID	Linear Feet	Ephemeral	Intermittent	Perennial
SS-01-012A	638			X
SS-02-018	182		X	
SS-03-011	152			X
Totals	**31,663**	**20**	**22**	**15**

[1] No datasheet, tributary with similar stream characteristics.

Bold: Streams found in more than one site, same datasheet.

Table 3-6 Summary of Streams at NOLF Joe Williams

Stream ID	Linear Feet	Ephemeral	Intermittent	Perennial
NE Site at NOLF Joe Williams				
SS-01-008	2,134			X
SS-01-008A	348		X	
SS-01-008B	1,396			X
SS-01-008C	645			X
SS-02-011	948		X	
SS-02-012	72	X		
SS-02-013	1,905			X
SS-02-013A[1]	178			X
SS-02-013B[1]	509		X	
SS-02-013C[1]	93		X	
SS-02-013D[1]	405		X	
SS-02-014	252		X	
SS-02-014A[1]	62	X		
SS-02-015	360	X		
SS-03-001	1,114		X	
SS-03-001A	381	X		
SS-03-001B	344	X		
SS-03-001C	441	X		
SS-03-002	1,112			X
SS-03-002A	449	X		
SS-03-003	880	X		
SS-03-003A	1,146		X	
SS-03-003B	30	X		
SS-03-003C	554	X		
SS-03-004	424		X	
SS-03-004A	60		X	
SS-03-004B	228	X		
SS-03-005	365		X	
SS-03-006	172		X	
SS-03-007	110	X		
SS-03-008	388	X		
SW Site at NOLF Joe Williams				
SS-01-002	532			X
SS-01-002A[1]	122			X
SS-01-003	3,761			X
SS-01-003A	327			X
SS-01-003B	454		X	

Table 3-6 Summary of Streams at NOLF Joe Williams

Stream ID	Linear Feet	Ephemeral	Intermittent	Perennial
SS-01-003C	403		X	
SS-01-003D	997			X
SS-02-001	902		X	
SS-02-002	833	X		
SS-02-002A[1]	89	X		
Potential Transmission Corridor at NOLF Joe Williams				
SS-02-012	181	X		
SS-05-009	77	X		
SS-05-010	322	X		
Totals	**26,528**	**18**	**15**	**11**

[1] No datasheet, tributary with similar stream characteristics.

Bold: Streams found in more than one site, same datasheet.

Table 3-7 Drainage Features at NAS Meridian and NOLF Joe Williams

Feature ID	Length (Feet)
NAS Meridian	
Stables Site	
DD-01-001	101
Mudlake Site	
DD-01-002	7
DD-01-010	68
DD-01-011	66
DD-02-004	56
DD-03-003A	113
DD-03-003B	23
DD-03-005	119
DD-03-006	205
DD-03-006A	20
DD-05-003	119
DD-05-004	44
DD-05-005	127
DD-05-006	53
DD-05-009	190
DD-05-010	241
Rabbit Road Site	
DD-02-002	698
DD-05-002	62
Potential Transmission Corridor	
DD-01-008	195
DD-01-009	369
DD-01-010	78
DD-01-011	382
DD-03-002A	96
DD-03-002B	17
DD-03-002C	52

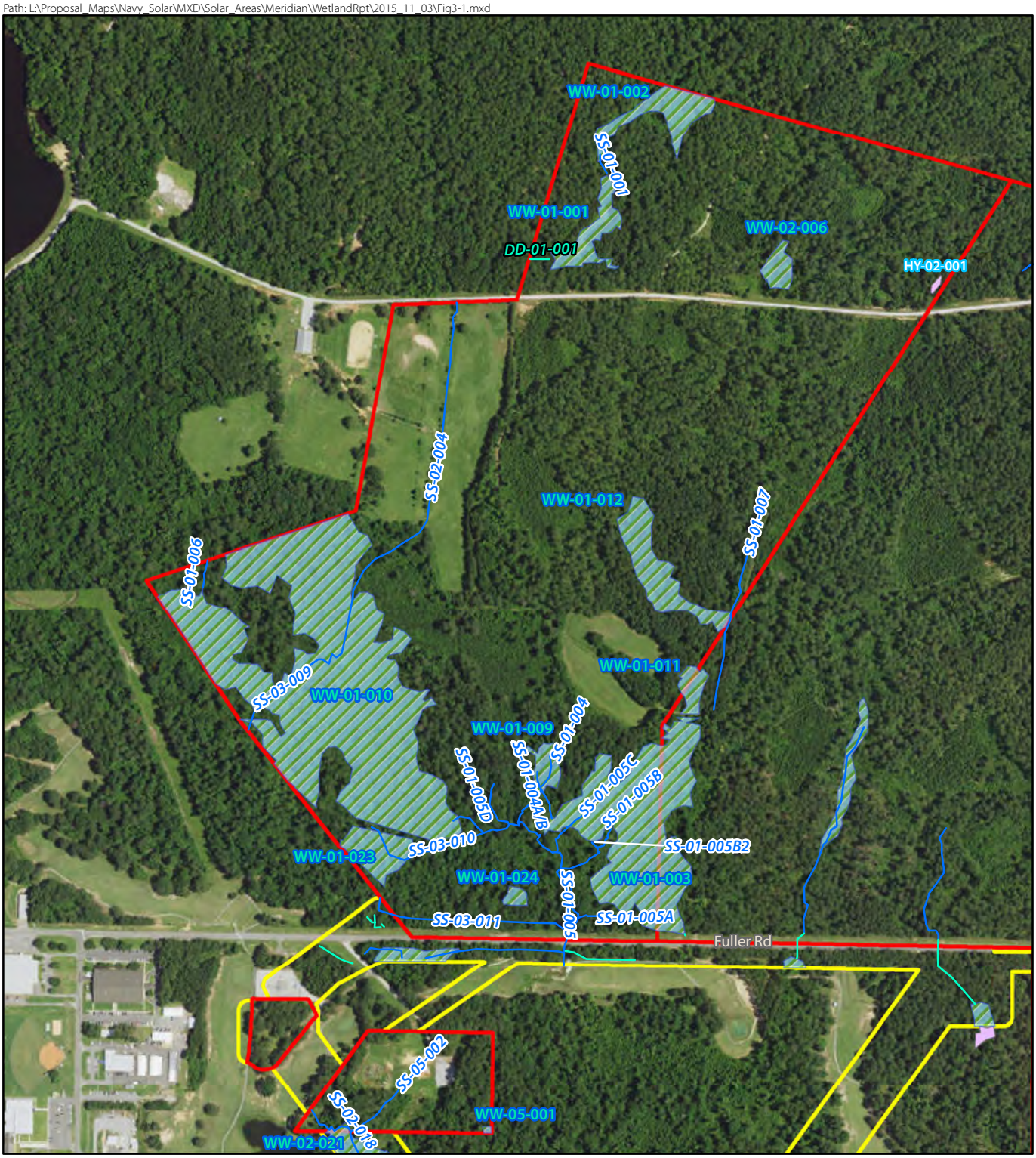
Table 3-7 Drainage Features at NAS Meridian and NOLF Joe Williams

Feature ID	Length (Feet)
NOLF Joe Williams	
SW Site	
DD-01-003	273
NE Site	
DD-01-004	216
DD-01-005	117
DD-01-006	94
DD-01-007	70
DD-02-003	221
DD-03-001	226
Potential Transmission Corridor	
DD-05-008	63

Table 3-8 Hydrologic Features at NAS Meridian and NOLF Joe Williams

Feature ID	Acreage	Type
NAS Meridian		
Stables Site		
HY-02-001	0.05	Stock Pond
NOLF Joe Williams		
NE Site		
HY-01-001	0.24	Stock Pond
HY-02-002	2.05	Reservoir
HY-02-003	0.02	Stock Pond
HY-02-004	0.01	Stock Pond
HY-02-005	0.10	Stock Pond
HY-03-002	0.10	Stock Pond
HY-03-003	0.52	Stock Pond

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-1.mxd



N

SCALE

0 500 1,000 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

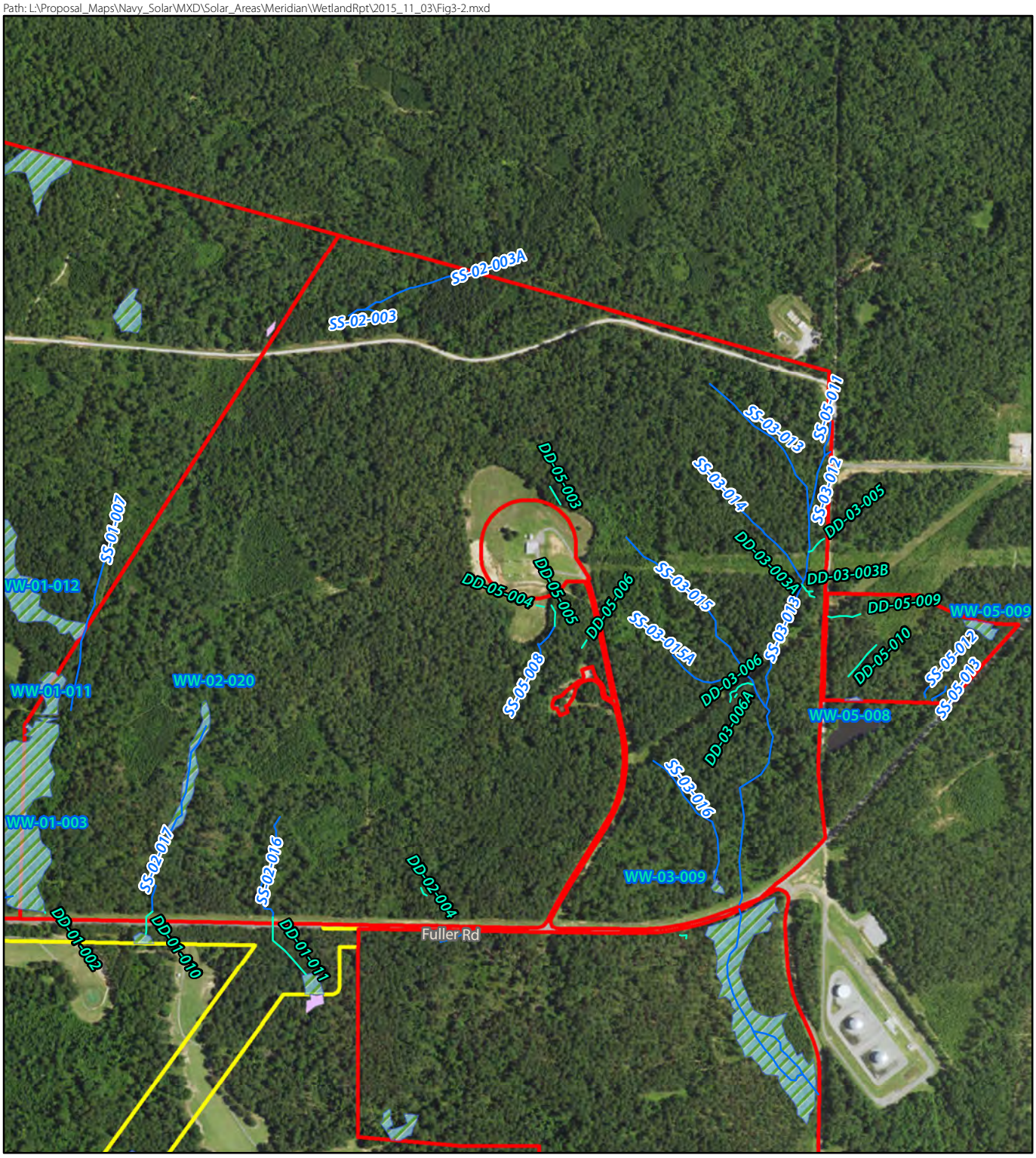
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands
- Stock Ponds/Tanks (Field Delineated)

Figure 3-1

Field Delineated Surface Waters Project Location: Stables Site at NAS Meridian

Lauderdale County, Mississippi

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-2.mxd



N

SCALE

0 500 1,000 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

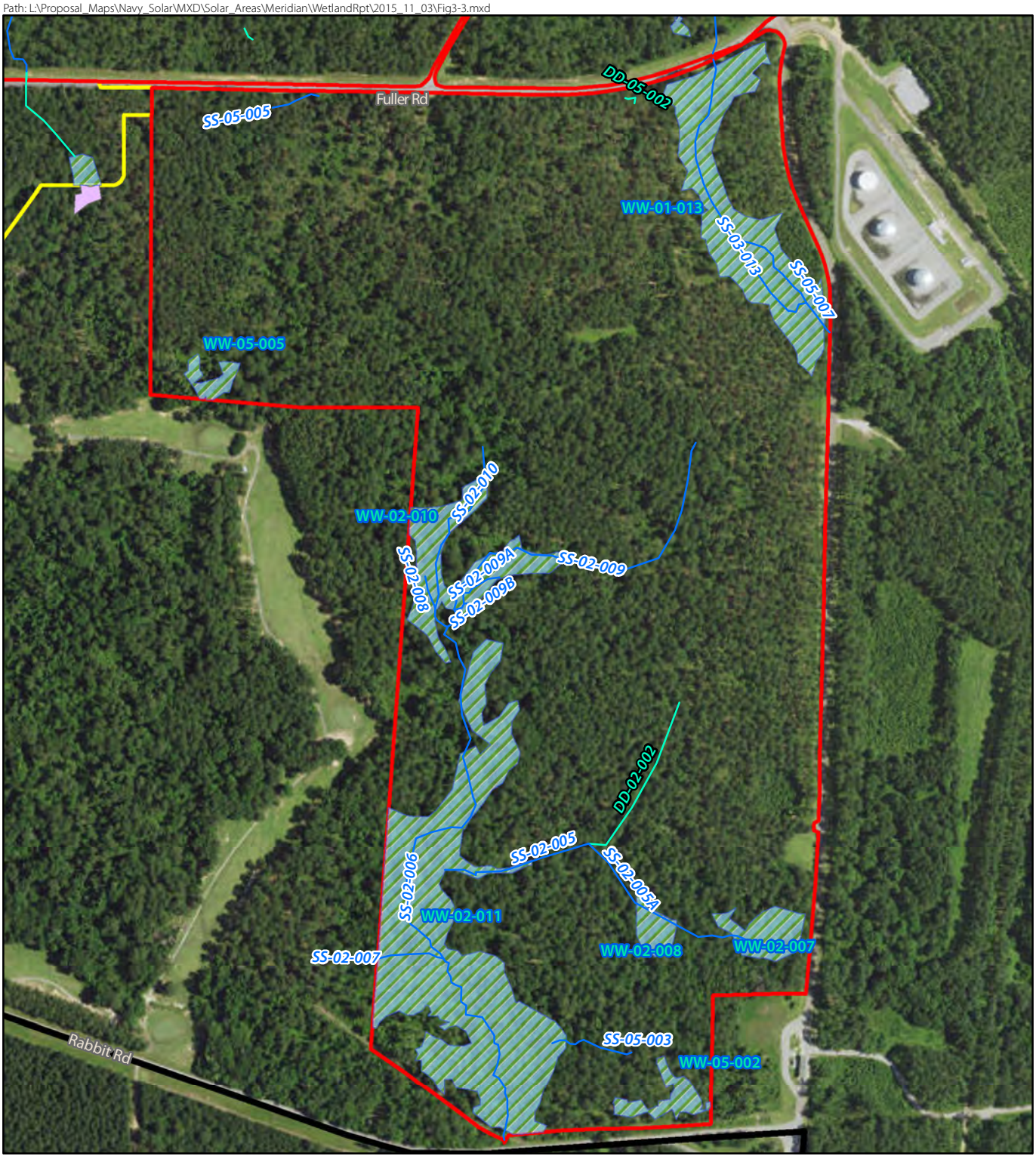
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands
- Stock Ponds/Tanks (Field Delineated)

Figure 3-2

Field Delineated Surface Waters Project Location: Mud Lake Site at NAS Meridian

Lauderdale County, Mississippi

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-3.mxd



N

SCALE

0 400 800 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

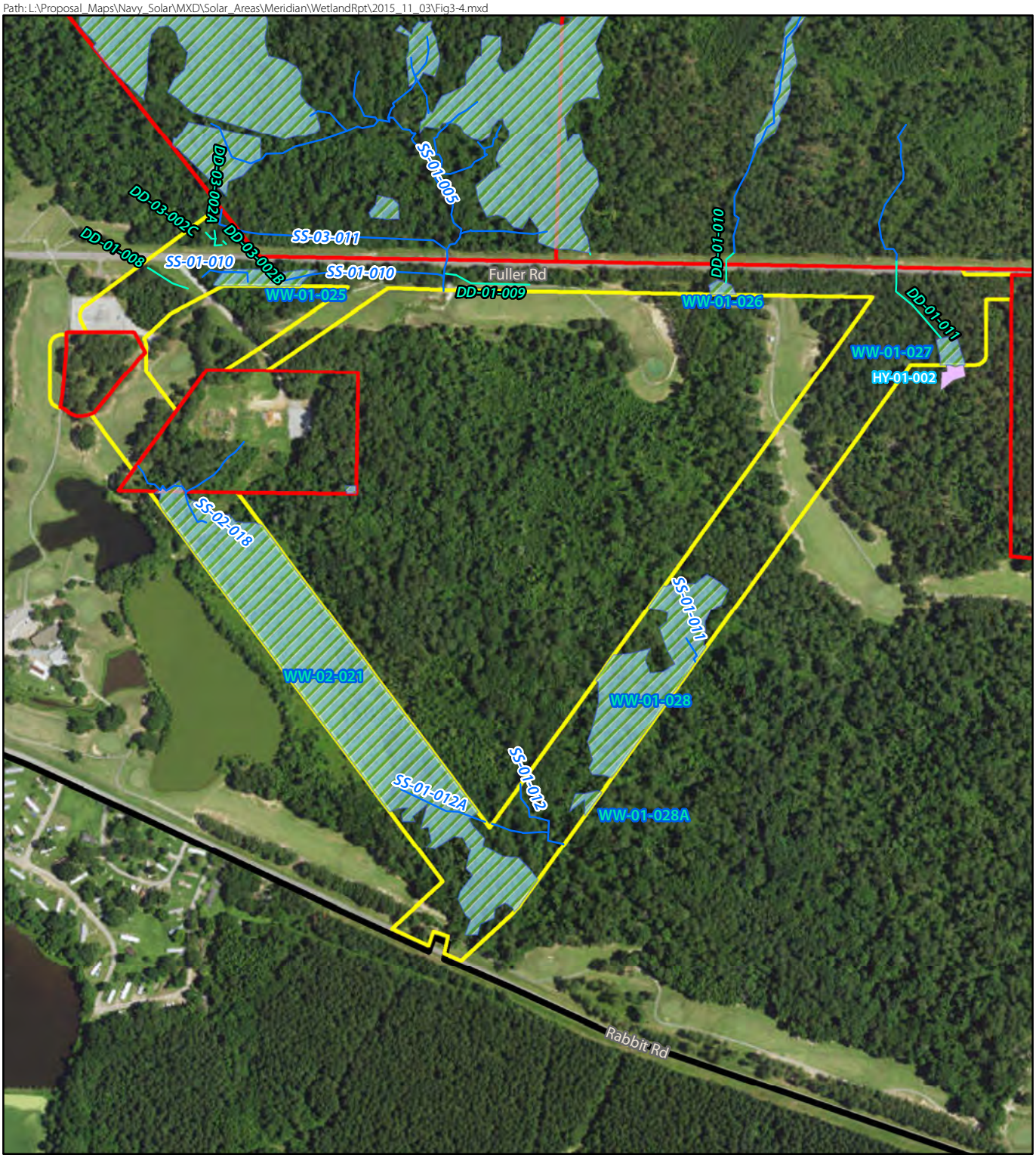
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands
- Stock Ponds/Tanks (Field Delineated)

Figure 3-3

Field Delineated Surface Waters Project Location: Rabbit Road Site at NAS Meridian

Lauderdale County, Mississippi

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-4.mxd



N

SCALE

0 400 800 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

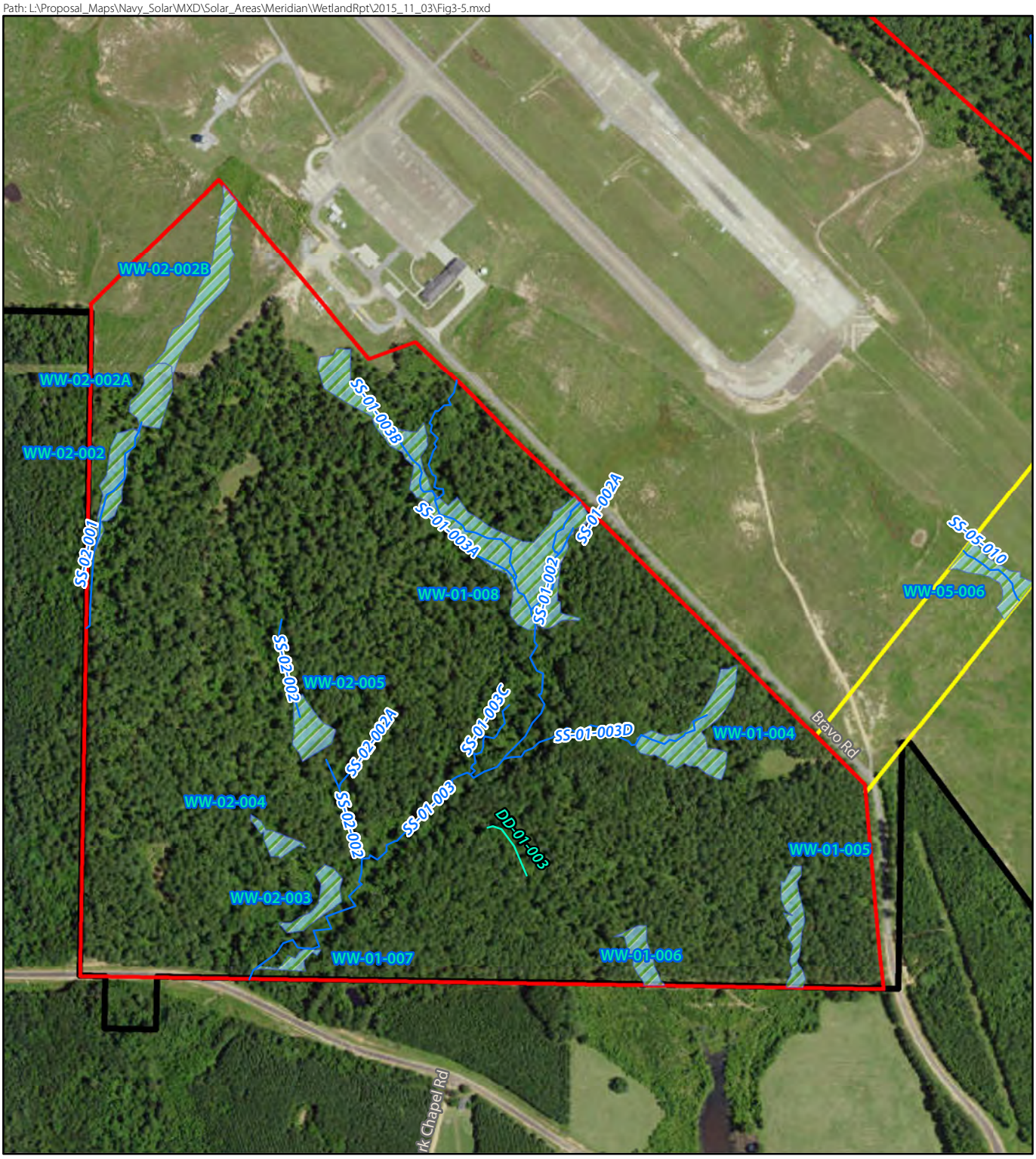
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands
- Stock Ponds/Tanks (Field Delineated)

Figure 3-4

Field Delineated Surface Waters Project Location: Potential Transmission Corridor at NAS Meridian

Lauderdale County, Mississippi

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-5.mxd



SCALE

0 500 1,000 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

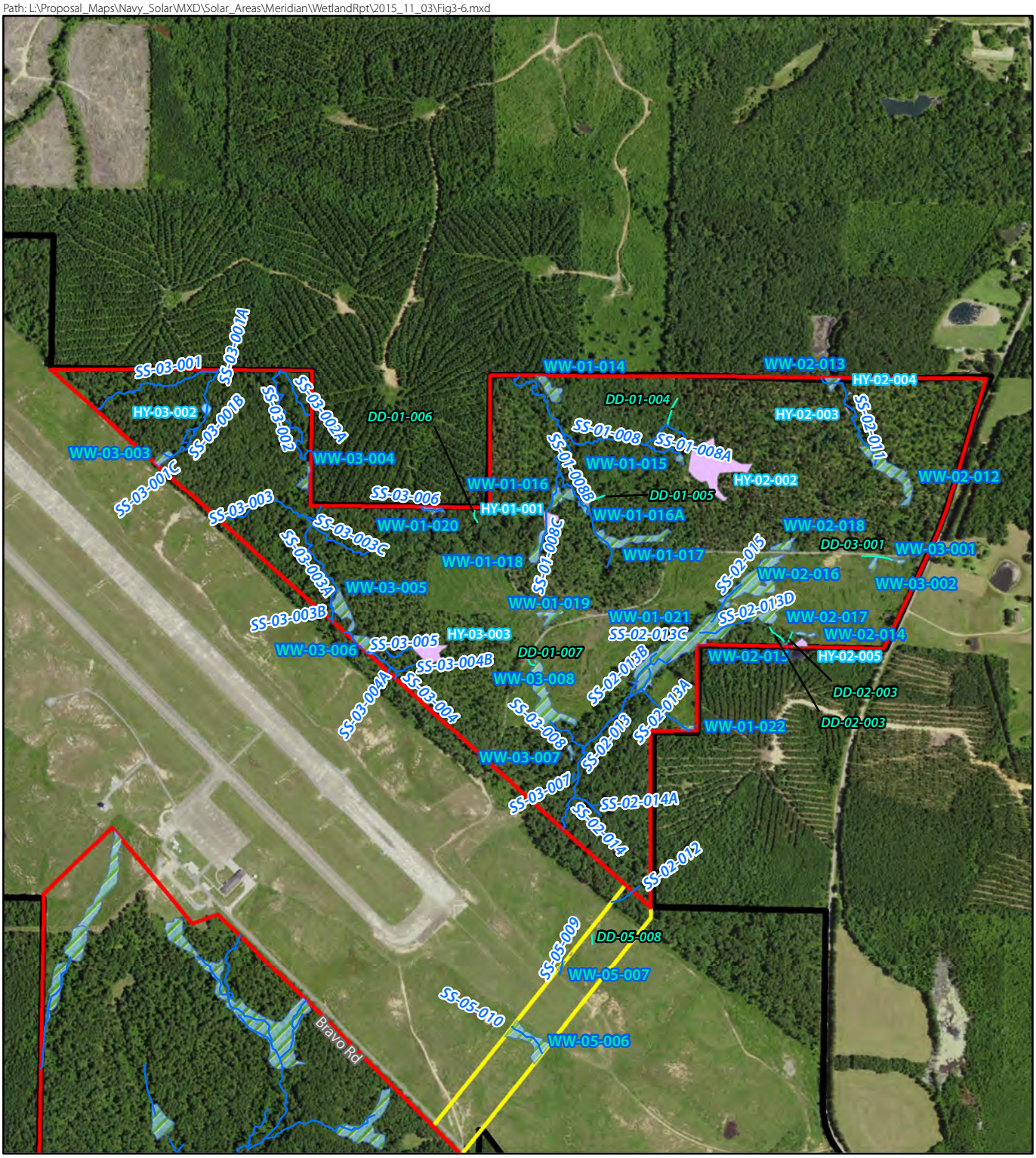
- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands

Figure 3-5

Field Delineated Surface Waters Project Location: SW Site at NOLF Joe Williams

Kemper County, Mississippi

Path: L:\Proposal_Maps\Navy_Solar\MXD\Solar_Areas\Meridian\WetlandRpt\2015_11_03\Fig3-6.mxd



N

SCALE

0 800 1,600 Feet

Service Layer Credits: ESRI Basemap 2015, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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Legend

- Military Installation Boundary
- Wetland Delineation Site Boundary - Nov 2015
- Potential Transmission Corridor
- Field Delineated Streams
- Field Delineated Drainages
- Field Delineated Wetlands
- Reservoir (Field Delineated)
- Stock Ponds/Tanks (Field Delineated)

Figure 3-6

Field Delineated Surface Waters

Project Location: NE Site at NOLF Joe Williams

Lauderdale County, Mississippi

4 Jurisdictional Status and Discussion

4.1 Jurisdictional Status

All 66 wetlands delineated within NAS Meridian and NOLF Joe Williams and the Potential Transmission Corridor boundaries are preliminarily classified as federal CWA jurisdictional wetlands.

Of the preliminarily classified jurisdictional wetlands, 12 were identified within the Stables Site, seven within the Mudlake Site, seven within the Rabbit Road Site, six within the Potential Transmission Corridor boundaries at NAS Meridian, 11within the SW Site at NOLF Joe Williams, 25 within the NE Site at NOLF Joe Williams, and two within the Potential Transmission Corridor boundaries at NAS Meridian. Three wetlands, WW-01-003, WW-01-011, and WW-01-012, overlapped into both the Stables Site and Mudlake Site. WW-02-021 was also identified as overlapping between the Stables Site and the Potential Transmission Corridor boundaries. Therefore, there are a total of 28 wetlands at all NAS Meridian sites combined and a total of 38 wetlands at all NOLF Joe Williams combined for a total of 66 wetlands within all sites. A discussion of the federal jurisdictional wetlands and associated streams identified at the five alternative sites and Potential Transmission Corridors is provided in the following subsections. All of the 92 streams and eight hydrologic features identified in the Project Area were determined to be potentially jurisdictional.

4.1.1 NAS Meridian

Stables Site

WW-01-001. This is a 1.36-acre PFO wetland located in the northwest corner of the Stables Site. The wetland appears to be fed by a stream (SS-01-001) and groundwater, and drained via a drain (DD-01-001). The drain flows west off site. It appears to connect to an unnamed stream that flows back onto the Stables Site to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum (*Liquidambar styraciflua)*, and red maple (*Acer rubrum).*

WW-01-002. This a 1.76-acre PFO wetland located in the northwest corner of the Stables Site. The wetland is at the toe of slope of multiple hills with standing water in the center. It is fed via groundwater and drained by a stream (SS-01-001) into another wetland (WW-01-001), which is connected to drain (DD-01-001). The drain flows west off site. It appears to connect to an unnamed stream that flows back onto the Stables Site to Segars Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: white oak (*Quercus lyrata*), and willow oak (*Quercus phellos*).

WW-01-003. This is a 6.66-acre PFO wetland located in the southeast corner of the Stables Site (and crosses over a small portion of the southwest corner of the Mudlake Site). This wetland is fed via groundwater, precipitation, and a stream (SS-01-002) and is drained via a stream (SS-01-002), which is a tributary of Segar's Creek. This wetland is in the floodplain of Segar's Creek and is directly connected to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, loblolly pine, red maple, sweet bay magnolia (*Magnolia virginiana*), water oak (*Quercus nigra*), mannagrass (*Glyceria striata*), greenbrier (*Smilax rotundifolia*), and fringed sedge (*Carex crinita*).

WW-01-009. This is a 0.66-acre PFO wetland located in the southern portion of the Stables Site, just northeast of WW-01-003. The wetland is fed via groundwater and drained by streams (SS-01-004, SS-01-004a, and SS-01-004b), which are all tributaries to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, water oak, red maple, American holly (*Ilex opaca*), and American beech (*Fagus grandifolia*).

WW-01-010. This is a 25.30-acre PFO wetland located in the southwest corner of the Stables Site. The wetland connects to WW-T02-001, and is fed via groundwater and overland sheet flow. It is drained via a stream (SS-01-005), which is a tributary to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: swamp white oak, sweet gum, cherrybark oak (*Quercus pagoda*), and willow oak.

WW-01-011. This is a 0.17-acre PFO wetland centered on the southern portion of the boundary line between the Stables Site and Mudlake Site. The wetland is fed via groundwater and drained via overland sheet flow. Drainage runs across the access road and into WW-01-003, which is drained via a stream (SS-01-002), a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, cherrybark oak, water oak, swamp white oak, common rush (*Juncus effusus*), and fowl bluegrass (*Poa palustris*).

WW-01-012. This is a 2.52-acre PFO wetland located slightly north of WW-01-011, along the border of the Stables and Mudlake Sites. Most of the wetland exists in the Stables Site. However, a small portion of this wetland (<0.01 acres) is located within the Mudlake Site. The wetland is fed via groundwater and over-land sheet-flow and drains via over-land sheet-flow towards WW-01-011, which is connected via tributaries to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, cherrybark oak, water oak, swamp white oak, fowl bluegrass, and common rush.

WW-01-023. This is a 1.53-acre PFO wetland located in southwest corner of the Stables Site in a depression. The wetland has inflow from overland sheet flow and precipitation. This wetland is in the floodplain of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: cherrybark oak, loblolly pine, sweet gum, American beech, greenbrier, and yellow jessamine (*Gelsemium sempervirens*).

WW-01-024. This is a 0.22-acre PFO wetland located in the southern portion of the Stables Site. The wetland is in a depression with inflow via groundwater and overland sheet flow. This wetland is in the floodplain of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: water oak, swamp chestnut oak (*Quercus michauxii*), American beech, sweet bay magnolia, and giant cane (*Arundinaria gigantea*).

WW-02-006. This is a 0.62-acre PSS wetland located in the northern portion of the Stables Site. The wetland is a depression, potentially created by the road to the south. A culvert provides hydrologic

connection to the south under the road. Sheet flow through a wide drain eventually connects to a man-made ditch (SS-01-007), which connects through wetlands and tributaries to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: willow oak, red maple, loblolly pine, sweet gum, broomsedge bluestem (*Andropogon virginicus*), and sugar cane plumegrass (*Saccharum giganteum*).

WW-05-001. This is a 0.04-acre PFO wetland located in the southeast corner of the most southern portion of the Stables Site, adjacent to the transmission corridor. The wetland is at the base of a small hillslope with water inflow via overland sheet flow and outflow via overland sheet flow to the south. Off site, this wetland is part of a mapped NWI wetland complex (PFO1C) that connects to other wetlands that eventually abut Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east, then northeast, and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: red maple, southern red oak (*Quercus falcata*), sweet gum, American holly, inkberry (*Ilex glabra*), common greenbrier (*Smilax rotundifolia*), giant cane, and netted chainfern (*Woodwardia aerolata*).

Mudlake Site

WW-01-003. This is a 3.27-acre PFO wetland located in the southwest corner of the Mudlake Site (also extends onto the Stable Site and the Potential Transmission Corridor). This wetland is fed via groundwater, precipitation, and a stream (SS-01-002), and is drained via a stream (SS-01-002), which is a tributary of Segar's Creek. This wetland is in the floodplain of Segar's Creek and is directly connected to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, loblolly pine, red maple, sweet bay magnolia, water oak, mannagrass, greenbrier, and fringed sedge.

WW-01-011. This is a 0.41-acre PFO wetland centered on the southern portion of the boundary line between the Stables Site and Mudlake Site. The wetland is fed via groundwater and drained via over-land sheet-flow. Drainage runs across the access road and into WW-01-003, which is drained via a stream (SS-01-002), a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, cherrybark oak, water oak, swamp white oak, common rush, and fowl bluegrass.

WW-02-020. This is a 0.95-acre PFO wetland located in the southwest corner of the Mudlake Site. The wetland is narrow, linear, and forms the narrow floodplain of SS-02-017, which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, red maple, sweet gum, sweet bay magnolia, water oak, field blackberry, common rush, and brown beaksedge (*Rhynchospora fusca*).

WW-03-009. This is a 0.10-acre PFO wetland located in the southeastern portion of the Mudlake Site. The wetland is next to Fuller Road and SS-03-016 drains into the wetland from the north by a culvert. A culvert connects this wetland to a wetland south of Fuller Road (WW-01-013) in the Rabbit Road site. Another culvert connects this wetland to a larger wetland east of the Rabbit Road site. This wetland appears to be connected by a ditch to wetland WW-02-007 which is connected via a drain and a stream to

SS-02-006, which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, and southern red oak.

WW-01-012. This was a continuation of the wetland on the Stables Site, with similar characteristics as previously described. Less than 0.01 acres exist within the Mudlake Site.

WW-05-008. This is a 0.04-acre PFO wetland located in southwest corner of the most eastern portion of the Mudlake site, north of the lake. The wetland has inflow from over-land sheet-flow and precipitation, and potential groundwater influence when Mud Lake has extremely high waters. This wetland is abutting and drains into Mud Lake via overland sheet flow. Mudlake drains offsite south and is in the floodplain of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, black gum (*Nyssa sylvatica*), red maple, sweet gum, southern red oak, and beakgrass (*Diarrhena americana*).

WW-05-009. This is a 0.26-acre PFO wetland located in the northeastern corner of the most eastern portion of the Mudlake Site in an isolated depression. The wetland has inflow from a culvert that is upslope south east of the wetland, along the road. Inflow is also from overland sheet flow. There is no visible outflow to this wetland. This wetland is in the floodplain of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, black gum, red maple, water oak, beakgrass, and saw greenbrier (*Smilax bona-nox*).

Rabbit Road Site

WW-01-013. This is a 5.82-acre PFO wetland located in the northeast corner of the Rabbit Road Site. Inflow is via groundwater and over-land sheet-flow from the surrounding upland, outflow is via a drain under Rabbit Road. The drain connects this wetland to a drainage to the south of the Bulk Fuel Storage Tanks that flows under the South Runway into Lake Sylvia and into Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, bristly blackberry (*Rubus hispidus*), flat-top goldentop (*Euthamia gramin*), green brier, fringed sedge, and giant goldenrod (*Solidago gigantea*).

WW-02-007. This is a 1.05-acre PFO wetland located in the southeastern corner of the Rabbit Road Site. The wetland is a depressional wetland near the back gate, which is connected via a culvert under Rabbit Road to a small tributary that flows into Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River which is also navigable. Of note, there is a man-made drainage ditch that flows west from this wetland into a tributary of Segar's Creek. Dominant vegetation includes: loblolly pine, sweet gum, water oak, willow oak, and red maple.

WW-02-008. This is a 0.54-acre PFO wetland located in the southern portion of the Rabbit Road Site. The wetland is a hardwood depression, which is connected via stream SS-02-005A then steam SS-02-005 to stream SS-02-006, which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: cherrybark oak and willow oak.

WW-02-010. This is a 2.91-acre PFO wetland located in the western portion of the Rabbit Road Site, with a small portion of the wetland running out of the alternative site boundary line. This wetland is connected to a stream (SS-02-006) which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum, sweet bay magnolia, water oak, and cinnamon fern (*Osmundastrum cinnamomeum*).

WW-02-011. This is a 12.87-acre PFO wetland located on the western portion of the Rabbit Road Site, just south of WW-02-010. The wetland runs off-site on the southwestern corner of the alternative site boundaries. This wetland is connected to a stream (SS-02-006) which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet bay magnolia, black tupelo (*Nyssa biflora*), water oak, willow oak, and giant cane.

WW-05-002. This is a 0.70-acre PFO wetland located in the southeastern corner of the Rabbit Road Site. The wetland is fed via over-land sheet-flow and drains via over land sheet-flow south during high rain events, towards SS-02-006, which is a tributary of Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, willow oak, wax myrtle (*Myrica cerifera*), red maple, common rush, and giant cane.

WW-05-005. This is a 0.43-acre PFO wetland located in the northwestern portion of the Rabbit Road Site. The wetland is a mapped PFO1A.The wetland is fed via overland sheet-flow and drains via over land sheet-flow south, towards Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: water oak, willow oak, sweet gum, and beakgrass.

Potential Transmission Corridor at NAS Meridian

WW-01-025. This is a 0.58-acre PFO wetland located in the northwest portion of the Potential Transmission Corridor boundary. The wetland is in a depressional area along the roadside, and is fed by SS-01-010, which flows through the wetland and into Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, loblolly pine, white oak, red maple, water oak, American holly, greenbrier, and yellow jessamine.

WW-01-026. This is a 0.12-acre PFO wetland located in the northeast portion of the Potential Transmission Corridor boundary. The wetland is in a depression between the base road and a golf cart path. It drains to the southeast under the golf cart road via a culvert. Water inflow is via overland sheet flow. Off site, this wetland connects to other wetlands that eventually connect to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum, willow oak, cherrybark oak, water oak, fringed sedge, greenbrier, barnyard grass (*Echinochloa crusgalli*), wool grass (*Scirpus cyperinus*), common rush, and broomsedge bluestem.

WW-01-027. This is a 0.26-acre PFO wetland located in the northeastern corner of the Potential Transmission Corridor boundary. The wetland is in a depression, fed by DD-01-011, overland sheet flow, and groundwater. There is a large area with standing water, and the wetland continues off the ROW. Off site, this wetland connects to other wetlands that eventually connect to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: loblolly pine, red maple, sweet gum, and water oak.

WW-01-028. This is a 4.53-acre PFO wetland located in the southeastern portion of the Potential Transmission Corridor boundary. The wetland is on a hillslope with water inflow via overland sheet flow and outflow via overland sheet flow and SS-01-011, which connects to Segar's Creek. Off site, this wetland connects to other wetlands that eventually connect to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: sweet gum, sweet bay magnolia, loblolly pine, water oak, red maple, giant cane, fringed sedge, barnyard grass, and greenbrier.

WW-01-028A. This is a 0.14-acre PFO wetland, located in the southeastern portion of the Potential Transmission Corridor boundary and is associated with WW-01-028. WW-01-028 is located northeast of WW-01-028A and extends off site, and then reenters the boundary as WW-01-028A. This is part of wetland WW-01-028 and the datasheets for wetland WW-01-028 are representative of this wetland. The wetland is on a hillslope with water inflow via overland sheetflow and outflow via overland sheetflow and SS-01-011, which connects to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable.

WW-02-021. This is a 13.65-acre PFO wetland (that turns to PSS toward the middle of the wetland) located in the southern and southwestern portion of the Potential Transmission Corridor boundary. The wetland is a beaver pond swamp. This beaver pond has a tributary that flows into Segar's Creek. Off site, this wetland connects to other wetlands that eventually connect to Segar's Creek. Segar's Creek flows south to Ponta Creek. Ponta Creek flows east then northeast and flows into the Sucarnoochee River, which is navigable water. The Sucarnoochee River eventually flows into the Tombigbee River, which is also navigable. Dominant vegetation includes: black tupelo, red maple, and common rush.

4.1.2 NOLF Joe Williams

SW Site

WW-01-004. This is a 1.42-acre PFO wetland located along the southeast edge of the SW Site along the runway, in a depressional area fed via runoff from the airfield and drained via a stream (SS-01-003d). The stream connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: water oak, loblolly pine, cherrybark oak , rattlesnake mannagrass, and greenbrier.

WW-01-005. This is a 0.61-acre PFO wetland located in the southeast corner of the SW Site. The wetland continues off site to a larger wetland to the south. This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, swamp white oak, boxelder (*Acer negundo*), and greenbrier.

WW-01-006. This is a 0.47-acre PFO wetland located in the southeast corner of the SW Site (west of WW-01-005). This wetland continues off-site to the south and includes a WW-01-016A, which is a 0.15-acre PFO. The wetland appears to be backflow from the off-site wetland. The area has been previously logged. This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River which is also navigable. The majority of the vegetation is composed of loblolly pine saplings. Other vegetation includes: boxelder, Chinese privet (*Ligustrum sinense*), swamp rosette panic grass (*Dichanthelium scabriusculum*), cutleaf coneflower (*Rudbeckia laciniata*), foxtail bog-clubmoss (*Lycopodiella alopecuroides*), and wool grass.

WW-01-007. This is a 0.19-acre PFO wetland located in the mid-southern portion of the SW Site, adjacent to a stream (SS-01-003) in a depressional area at the base of a slope. Inflow to this wetland is via groundwater, overland sheet flow, and precipitation. Outflow is via a stream (SS-01-003). This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: willow oak, water oak, sweet gum, loblolly pine, boxelder, Chinese privet, greenbrier, and fringed sedge.

WW-01-008. This is a 4.42-acre PFO wetland located on the eastern portion of the SW Site, running parallel to the runway. This large wetland is at the base slope of several hills and associated with two streams (SS-01-003 and SS-01-002) and their associated tributaries. This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: box elder, willow oak, swamp white oak, water oak, and greenbrier.

WW-02-002, 002A, and 002B. WW-02-002 is a 0.72-acre PFO wetland that changes conditions from PFO to PSS (0.71 acres WW-02-002A) to PEM (1.19 acres WW-02-002B) as the wetland flows from the northern boundary line of the SW Site to the western boundary. The southern half of the wetland is an intermittent stream with an adjacent floodplain, braided channels in some areas. Dominant vegetation in this portion of the wetland includes: willow oak, sweet gum, and red maple. The middle portion of the wetland appears to be an old pond with evidence of an old levee that has been breached. Dominant vegetation in this portion of the wetland includes: sweet gum, red maple, wool grass, and sugar cane plumegrass. The northern portion of the wetland changes from PSS to PEM in a drainageway of planted pines. Between the PSS and PEM area, there is a narrow maintained ROW. Dominant vegetation in this portion of the wetland includes: loblolly pine, wool grass, and sugar cane plumegrass. Off site, this wetland connects through a system of tributaries to Land Creek. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River which is also navigable.

WW-02-003. This is a 0.51-acre PFO wetland located toward the southwestern corner of the SW Site, to the north of WW-01-007 and associated with SS-01-003. This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: water oak, willow oak, loblolly pine, and American beech.

WW-02-004. This is a 0.29-acre PSS wetland located in the southwest corner of the SW Site, to the north of WW-02-003. The wetland area is an old man-made pond with a breached levee on the east end. Approximately 800 square feet of open water with a fringe of button bush (*Cephalanthus occidentalis*) and backwater are on the north end. This wetland connects through a system of tributaries to Land Creek

off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable.

WW-02-005. This is a 0.63-acre PSS wetland located in the center of the SW Site. The wetland is a man-made pond. The levee does not appear breached, but is no longer functioning. The water level is approximately 4 in lower than the levee should indicate; appears that the levee has not functioned properly for many years. Upland vegetation is growing inside of the old pond bank and the wetland/water line is at an extreme low pool elevation. This wetland consists of Approximately 200 square feet of open water surrounded by a collar of buttonbush in standing water, and PFO wetland in the backwater of the old pond. This wetland connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River which is also navigable. Dominant vegetation includes: water oak, willow oak, red maple, sweet gum, and lesser pond sedge (*Carex acutiformis*).

NE Site

WW-01-014. This is a 0.40-acre PFO wetland located along the north boundary of the NE Site. The wetland is fed via groundwater, overland sheet flow, and an uphill hydrologic feature. It is drained via a stream (SS-01-008). This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, water oak, white oak, and greenbrier.

WW-01-015. This is a 0.07-acre PFO wetland located southeast of WW-01-014 in the northern portion of the NE Site. The wetland is at the base of a levee (HY-02-002). The wetland is fed via the hydrologic feature and groundwater, and is drained via a stream (SS-01-008A). This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: water oak, loblolly pine, sweet gum, southern red oak, and greenbrier.

WW-01-016 and 016A. These are 0.40-acre PFO (WW-01-016) and 0.15-acre PFO (WW-01-016A) wetlands located in the center of the NE Site in a small depression. The wetland areas are fed via a stream (SS-01-008c), groundwater, and overland sheet flow. The area is drained via a stream (SS-01-008c). These wetlands are in close proximity and have similar characteristics. Therefore, only one set of datasheets was collected to represent wetland WW-01-016 and WW-01-016A. This wetland, through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: sweet gum, water oak, loblolly pine, greenbrier, and Japanese honeysuckle (*Lonicera japonica*).

WW-01-017. This is a 0.74-acre PFO wetland located in the center of the NE Site, southeast of WW-01-016. The wetland is associated with SS-01-008 and collects overland sheet flow from the access road. This wetland, through a system of tributaries, connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: box elder, loblolly pine, southern red oak, sweet gum, water oak, and greenbrier.

WW-01-018. This is a 0.29-acre PFO wetland located in the center of the NE Site, southwest of WW-01-016 and west of WW-01-017. The wetland is in a valley between hill slopes, with water coming from groundwater and overland sheet flow. Water is drained via a stream (SS-01-008c) into a hydrologic feature (HY-T01-001). Through a system of tributaries, this wetland connects to Cow Creek, which flows

northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: sweet gum, water oak, willow oak, loblolly pine, sassafras (*Sassafras albidum*), greenbrier, and common rush.

WW-01-019. This is a 0.24-acre PSS wetland located between two access roads in the center of the NE Site of a previously logged area. Wet areas are due to divots from logging equipment, with water inflow due to precipitation and overland sheet flow. Soils in this area are extremely compacted and clayey making even upland areas poorly drained. Through a system of tributaries, this wetland connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, sassafras, swamp rosette panic grass, barnyard grass, wool grass, sugarcane plumegrass, giant goldenrod, and whiteroot rush (*Juncus brachycarpus*).

WW-01-020. This is a 0.13-acre PFO wetland located in the NE Site along the northern boundary line. The wetland is fed and drained by a stream (SS-01-009). Through a system of tributaries, this wetland connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, cherrybark oak, white oak, sweet gum, greenbrier, and barnyard grass.

WW-01-021. This is a 2.70-acre PFO wetland located in the southeastern portion of the NE Site and is fed and drained by two streams (SS-02-013b and SS-02-013d). The wetland has standing water. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: sweet gum, water oak, white oak, loblolly pine, greenbrier, and Japanese honeysuckle.

WW-01-022. This is a 0.08-acre PEM wetland located in the south-southeastern portion of the NE Site that extends off the property boundary and is drained via SS-02-013. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum, red maple, common rush, wool grass, common blackberry (*Rubus allegheniensis*), and Japanese honeysuckle.

WW-02-012. This is a 1.08-acre PSS wetland located in the northeast corner of the NE Site. The wetland has a seep/spring near the top draw feeding SS-02-011. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, black willow (*Salix nigra*), southern waxy sedge (*Carex glaucesce*), small-flowered meadow beauty (*Rhexia parviflora*), field blackberry (*Rubus arvensis*), common rush, wool grass, sugarcane plume grass, boneset (*Eupatorium perfoliatum*), and hairy primrose-willow (*Ludwigia pilosa*).

WW-02-013. This is a 0.17-acre PFO wetland located in the northeast corner of the NE Site. The depressional wetland is at the alternative site boundary line with a stock pond to the north, past the boundary line. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: red maple, sweet gum, black willow, and cinnamon fern.

WW-02-014. This is a 0.09-acre PSS wetland located in the eastern portion of the NE Site, southeast of WW-02-017 and northeast of WW-02-015. The wetland is within a planted pine area and dominant vegetation includes: loblolly pine, wool grass, sugarcane plume grass, and field blackberry. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable.

WW-02-015. This is a 0.03-acre PSS wetland located in the eastern portion of the NE Site. The wetland is southwest of WW-02-014, is within a planted pine area, and is associated with HY-02-005 and DD-02-003. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, common rush, and wool grass.

WW-02-016. This is a 1.39-acre PSS wetland located along a drainageway in the eastern portion of the NE Site, north of WW-02-017 and WW-01-021. The wetland has a 24-inch culvert under the white rock road that connects to a ponded wetland on the north side of the road. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, sugarcane plume grass, and swamp rosette panic grass.

WW-02-017. This is a 0.46-acre PSS wetland located in the eastern portion of the NE Site, south of WW-T02-016. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River which is also navigable. The wetland is a seep slope, with dominate vegetation including: black tupelo, loblolly pine, swamp rosette panic grass, hairy primrose-willow (*Ludwigia pilosa*), broomsedge bluestem, and netted chainfern.

WW-02-018. This is a 0.20-acre PSS wetland located in the eastern portion of the NE Site, to the north of the main access road. The wetland is a depression connected to WW-T02-016 by a culvert, and has a shallow pond. The elevation of the culvert appears to be causing the ponding. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, wool grass, and swamp flatsedge (*Cyperus distinctus*).

WW-03-001. This is a 0.06-acre PEM wetland located in the eastern portion of the NE Site, just south of the main access road. The wetland is located within a planted pine area with divots left from logging equipment, and is associated with a ponded area (HY-03-001) likely used for stormwater retention. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River which is also navigable. Dominant vegetation includes: loblolly pine, late goldenrod (*Solidago altissima*), whiteroot rush, barnyard grass, wool grass, brown beaksedge, hairy primrose-willow, and bushy bluestem (*Andropogon glomeratus*).

WW-03-002. This is a 0.11-acre PEM wetland located in the eastern portion of the NE Site, south of the main access road, and west of WW-03-001. The wetland is located within a planted pine area with divots left from logging equipment, and is associated with a ponded area (HY-03-001) likely used for stormwater retention. This wetland through a system of tributaries connects to Cow Creek, which flows

northwest to the Bogue Chitto Rive, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, broomsedge bluestem, late goldenrod, brown beaksedge, and rufous bulrish (*Scirpus pendulus*).

WW-03-003. This is a 0.18-acre PEM wetland located in the northwestern portion of the NE Site. The wetland is associated with SS-01-003c, and runs off-site of the alternative site boundary line. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum, red maple, water oak, cherrybark oak, greenbrier, Japanese honeysuckle, and common rush.

WW-03-004. This is a 0.19-acre PFO wetland located in the northwestern portion of the NE Site. The wetland is adjacent to a planted pine field and is associated with SS-03-002. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: sweet gum, loblolly pine, red maple, greenbrier, common blackberry, late goldenrod, sweet woodreed (*Cinna arundinacea*), Dudley's rush (*Juncus dudleyi*), and Virginia bugleweed (*Lycopus virginicus*).

WW-03-005. This is a 0.53-acre PFO wetland located in the western portion of the NE Site. The wetland runs very close to the alternative site boundary, and is associated with SS-03-003a. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: red maple, sweet gum, and greenbrier.

WW-03-006. This is a 0.37-acre PFO wetland located in the western portion of the NE Site, with a portion of the wetland running off-site of the alternative site boundary. The wetland is south of WW-03-005 and associated with SS-03-004 and its associated tributaries. This wetland through a system of tributaries connects to Cow Creek, which flows northwest to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: sweet gum, loblolly pine, red maple, sensitive fern (*Onoclea sensibilis*), and greenbrier.

WW-03-007. This is a 0.08-acre PFO wetland located in the southern portion of the NE Site. The wetland is in bottomland and is associated with SS-03-008. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, sweet gum, red maple, water oak, and greenbrier.

WW-03-008. This is a 1.32-acre PFO wetland located in the southern portion of the NE Site. The wetland is in a planted pine area, southeast of an access road, and is associated with SS-03-008. This wetland is connected to a stream that flows south to the SW Site at NOLF Joe Williams then connects through a system of tributaries to Land Creek off site. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. Dominant vegetation includes: loblolly pine, giant goldenrod, wool grass, common blackberry, hairy primrose-willow, swamp rosette panic grass, and late goldenrod.

Potential Transmission Corridor at NOLF Joe Williams

WW-05-006. This is a 0.73-acre PEM wetland located in the central portion of the NOLF Joe Williams corridor site. The wetland is in a mowed grassland in the airfield clear zone, and is associated with SS-05-009 and SS-05-010. This wetland is a mapped PFO1/SS1A. This wetland is fed via overland sheet flow groundwater and drains south to a tributary to Land Creek. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. The dominant vegetation is common rush.

WW-05-007. This is a 0.03-acre PEM wetland located in the northwestern portion of the NOLF Joe Williams corridor site, northeast of WW-05-006. The wetland is also in a mowed grassland in the airfield clear zone. This wetland is a mapped SS1A and is associated with SS-05-010 and SS-02-012. This wetland is connected to SS-02-12 that flows west, from the NE site into the corridor into SS-05-010, then south through the corridor site into WW-05-006, and continues into the SW site at NOLF Joe Williams. This wetland is fed via overland sheet flow and SS-02-012 and drains south to a tributary to Land Creek. Land Creek connects to the Bogue Chitto River, which is navigable. The Bogue Chitto River flows northwest then west to the Pearl River, which is also navigable. The dominant vegetation is common rush.

5 Conclusion

E & E biologists completed a series of wetland delineations between January 28 and February 14, 2015 and October 19 through 22, 2015, at five alternative sites proposed for solar development at NAS Meridian (Stables Site, Mudlake Site, Rabbit Road Site, and a Potential Transmission Corridor, and NOLF Joe Williams [SW Site, NE Site and a Potential Transmission Corridor]). While the NAS Meridian facility encompasses approximately 8,061 acres, and NOLF Joe Williams encompasses approximately 1,255 acres, the five alternative sites listed above range in size from approximately 158 to 337 acres.

Field methodologies used in the wetland and waters delineations included: 1) wetland identification using the *Federal Manual for Identifying and Delineating Jurisdictional Wetlands* 1989 (formed by the *Corps of Engineers Wetland Delineation Manual* 1987); 2) wetland classification using Cowardin et al. (1979); and 3) identification of OHWM using USACE guidance.

In summary, 66 wetlands (28 at NAS Meridian and 38 at NOLF Joe Williams), 92 streams (49 at NAS Meridian and 43 at NOLF Joe Williams), and eight hydrologic features (one at NAS Meridian and seven at NOLF Joe Williams) were identified as potential jurisdictional features within the five solar PV alternative sites and the Potential Transmission Corridor Sites. The total extent of wetland delineations within the Project Areas was 112.85 acres (89.46 acres at NAS Meridian and 23.39 acres at NOLF Joe Williams) and the Project Areas contained a total of 58,191 linear feet of stream (31,663 linear feet at NAS Meridian and 26,528 linear feet at NOLF Joe Williams). A number of the wetlands and streams extended beyond the edge of the alternative site boundaries. The eight hydrological features identified totaled approximately 3 acres; these areas consisted of open water features (stock ponds and a reservoir). Based on field observations, all of these features were determined to be potentially jurisdictional.

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A NAS Meridian and Potential Transmission Corridor Supporting Documents

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A-1 NAS Meridian and Potential Transmission Corridor Wetland Datasheets

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WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/28/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-001-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Convex Slope (%): 0-3

Subregion (LRR or MLRA): Lat: 32.5612 Long: -88.5925 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-001-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	15	Y	FAC
3. Acer rubrum	5	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		195 (B)

Prevalence Index = B/A = 3

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-01-001-U1

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
0-12	10yr,5,3	50	2.5yr,5,8	50	C	M	Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/28/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-001-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5613 Long: -88.5924 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-01-001-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	15	Y	FAC
3. Acer rubrum	5	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		195 (B)

Prevalence Index = B/A = 3

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-01-001-W1

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
0-12	10yr,4,2	60	7.5yr,5,8	40	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/28/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-002-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5638 Long: -88.5905 Datum: WGS 1984

Soil Map Unit Name: Daleville loam, occasionally flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-002-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus alba	25	N	FACU
2. Quercus phellos	20	Y	FACW
3. Quercus lyrata	10	N	OBL
4. Pinus echinata	5	N	UPL
5.			
6.			
	60 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Ilex opaca	10	Y	FAC
2. Quercus alba	5	Y	FACU
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	40	Y	FAC
2. Glyceria canade	5	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 36.363636 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	20	x 2 =	40
FAC species	50	x 3 =	150
FACU species	30	x 4 =	120
UPL species	5	x 5 =	25
Column Totals:	125 (A)		355 (B)

Prevalence Index = B/A = 2.84

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-002-U1

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,3,2	100	,,	-1			Silt	
3-16	10YR,5,3	85	10YR,5,8	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/28/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-002-W1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5637 Long: -88.5905 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-002-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus lyrata	25	Y	OBL
2. Quercus phellos	15	Y	FACW
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus lyrata	5	Y	OBL
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	30	x 1 =	30
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	45 (A)		60 (B)

Prevalence Index = B/A = 1.33

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-002-W1

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,3,2	100	,,	-1			Silt	
3-14	10YR,4,2	65	7.5YR,5,8	35	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/29/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-003-U1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Convex Slope (%): 0-3

Subregion (LRR or MLRA): Lat: 32.5543 Long: -88.5916 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-003-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	35	Y	FAC
2. Liquidambar sty	25	N	FAC
3. Quercus nigra	10	N	FAC
4.			
5.			
6.			
	70	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	15	Y	FAC
2. Magnolia virgin	10	Y	FACW
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	95	x 3 =	285
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	120 (A)		365 (B)

Prevalence Index = B/A = 3.04

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-003-U1

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
0-2	10YR,3,2	100	,,	-1			Silt	
2-14	10YR,4,2	99	10YR,5,8	1	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 01/29/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-003-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR or MLRA): Lat: 32.5542 Long: -88.5916 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-003-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	40	Y	FAC
2. Pinus taeda	10	N	FAC
3. Acer rubrum	5	N	FAC
4. Magnolia virgin	5	N	FACW
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3. Acer rubrum	5	Y	FAC
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Glyceria striat	3	Y	OBL
2. Smilax rotundif	3	Y	FAC
3. Carex crinita	2	Y	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	8	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 77.777777 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	3	x 1 =	3
FACW species	7	x 2 =	14
FAC species	78	x 3 =	234
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	88 (A)		251 (B)

Prevalence Index = B/A = 2.85

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-003-W1

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,3,1	97	5YR,4,6	3	C	M	Sandy Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-009-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Convex Slope (%): 3-5

Subregion (LRR or MLRA): Lat: 32.5538 Long: -88.5921 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-009-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Quercus nigra	15	Y	FAC
3. Liquidambar sty	5	N	FAC
4. Quercus michaux	5	N	FACW
5.			
6.			
	65	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	15	Y	FAC
2. Liquidambar sty	5	Y	FAC
3. Ilex opaca	5	Y	FAC
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		265 (B)

Prevalence Index = B/A = 2.94

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-009-U1

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
0-5	10YR,4,2	100	,,	-1			Sandy Loam	
5-14	2.5Y,6,3	90	10YR,5,8	10			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-009-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): Lat: 32.5538 Long: -88.5923 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-01-009-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	30	Y	FAC
2. Quercus nigra	15	Y	FAC
3. Acer negundo	15	N	FAC
4.			
5.			
6.			
	60	= Total Cover	
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Quercus nigra	10	Y	FAC
3. Ilex opaca	3	N	FAC
4. Fagus grandifol	3	N	FACU
5.			
6.			
	26	= Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5)			
1. Glyceria canade	10	Y	OBL
2. Carex crinita	5	Y	FACW
3. Smilax rotundif	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	88	x 3 =	264
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	106 (A)		296 (B)

Prevalence Index = B/A = 2.79

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-01-009-W1

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
0-14	10YR,5,1	80	7.5YR,5,8	15	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-010-U1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Natural Levee Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5529 Long: -88.5943 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-010-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus pagoda	15	Y	FACW
2. Quercus bicolor	15	N	FACW
3. Quercus pagoda	15	Y	FACW
4. Quercus bicolor	15	N	FACW
5. Quercus michaux	5	N	FACW
6. Quercus michaux	5	N	FACW
	35	= Total Cover	
50% of total cover: _____	20% of total cover: _____		
Sapling Stratum (Plot size: 15)			
1. Quercus pagoda	10	Y	FACW
2. Quercus pagoda	10	Y	FACW
3. Fagus grandifol	5	Y	FACU
4. Fagus grandifol	5	Y	FACU
5.			
6.			
	15	= Total Cover	
50% of total cover: _____	20% of total cover: _____		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover: _____	20% of total cover: _____		
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	
50% of total cover: _____	20% of total cover: _____		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	10	= 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: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 62.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	65 (A)		145 (B)

Prevalence Index = B/A = 2.23

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-010-U1

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,4,3	100	,,	-1			Sandy Loam	
0-16	10YR,4,3	100	,,	-1			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/04/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-010-U2

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex Slope (%): 0-3

Subregion (LRR or MLRA): Lat: 32.5557 Long: -88.5964 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-010-U2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Quercus falcata	15	N	FACU
3. Liquidambar sty	15	N	FAC
4. Acer negundo	10	N	FAC
5.			
6.			
	80 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2. Quercus falcata	20	Y	FACU
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	30	Y	FAC
2. Rubus allegheni	10	Y	UPL
3. Arundinaria gig	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	115	x 3 =	345
FACU species	35	x 4 =	140
UPL species	10	x 5 =	50
Column Totals:	165 (A)		545 (B)

Prevalence Index = B/A = 3.3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-010-U2

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
0-4	10YR,3,2	100	,,	-1			Sandy Loam	
4-12	10YR,5,6	95	7.5YR,4,6	5	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-010-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.553 Long: -88.5943 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-010-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus bicolor	30	Y	FACW
2. Liquidambar sty	20	Y	FAC
3. Quercus pagoda	10	N	FACW
4. Quercus phellos	5	N	FACW
5.			
6.			
	65	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 20 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	45	x 2 =	90
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		210 (B)

Prevalence Index = B/A = 2.47

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-010-W1

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
0-4	10YR,4,2	100	,,	-1			Clay Loam	
4-16	10YR,5,1	75	7.5YR,5,8	25	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/04/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-010-W2

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5558 Long: -88.5963 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____	
Water Table Present?	Yes ✔	No _____	Depth (inches): 10	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-010-W2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	80	Y	FAC
2.			
3.			
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	20	Y	FAC
2. Rubus allegheni	5	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	0	x 2 =	0
FAC species	120	x 3 =	360
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	125 (A)		385 (B)

Prevalence Index = B/A = 3.08

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-010-W2

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
0-4	10YR,4,1	95	5YR,4,6	5	C	M	Sandy Loam	
4-14	10YR,6,1	90	7.5YR,5,8	10	C	M	Sandy Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-011-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5553 Long: -88.5902 Datum: WGS 1984

Soil Map Unit Name: Daleville loam, occasionally flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-011-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Quercus nigra	15	N	FAC
3. Liquidambar sty	5	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Rubus hispidus	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	5	x 2 =	10
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	75 (A)		220 (B)

Prevalence Index = B/A = 2.93

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-011-U1

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
0-2	10YR,3,3	100	,,	-1	C	M	Sandy Loam	
2-14	2.5YR,4,3	95	10YR,5,8	5	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-011-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.5553 Long: -88.5901 Datum: WGS 1984

Soil Map Unit Name: Daleville loam, occasionally flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔ No ____	
Wetland Hydrology Present?	Yes ✔ No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-01-011-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	20	Y	FAC
2. Pinus taeda	15	Y	FAC
3. Quercus nigra	5	N	FAC
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	50 (A)		150 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-011-W1

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
0-14	10YR,4,2	80	7.5YR,4,6	20	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-012-U1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Head Slope Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.556 Long: -88.5898 Datum: WGS 1984

Soil Map Unit Name: Daleville loam, occasionally flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-012-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus bicolor	10	Y	FACW
2. Quercus nigra	5	Y	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Ligustrum sinen	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	60 = 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	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		350 (B)

Prevalence Index = B/A = 2.5

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-012-U1

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
0-14	10YR,4,3	90	10YR,5,8	5	C	M	Sandy Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-012-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5562 Long: -88.5898 Datum: WGS 1984

Soil Map Unit Name: Daleville loam, occasionally flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-012-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	20	Y	FAC
2. Quercus pagoda	20	Y	FACW
3. Quercus nigra	5	N	FAC
4.			
5.			
6.			
	45 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2. Quercus bicolor	5	Y	FACW
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Poa palustris	5	Y	FAC
2. Juncus effusus	3	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	8 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	3	x 1 =	3
FACW species	25	x 2 =	50
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	68 (A)		173 (B)

Prevalence Index = B/A = 2.54

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-01-012-W1

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
0-14	10YR,4,2	85	7.5YR,4,6	15	C	M	Sandy Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-013-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 30

Subregion (LRR or MLRA): Lat: 32.5493 Long: -88.5764 Datum: WGS 1984

Soil Map Unit Name: Quitman loam, 0 to 2 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-013-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Spiraea alba	30	Y	FACW
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Andropogon glom	40	Y	FACW
2. Rubus hispidus	5	N	FACW
3. Saccharum gigan	0	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	15	x 3 =	45
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		195 (B)

Prevalence Index = B/A = 2.17

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-013-U1

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,4,3	100	,,	-1	C	M	Clay Loam	
3-14	10YR,5,6	95	10YR,5,8	5	C	M	Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-013-W1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5494 Long: -88.5763 Datum: WGS 1984

Soil Map Unit Name: Quitman loam, 0 to 2 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-013-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	70	Y	FAC
2. Platanus occide	5	N	FACW
3.			
4.			
5.			
6.			
	75	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Rubus hispidus	10	Y	FACW
2. Euthamia gramin	5	Y	FAC
3. Smilax rotundif	5	Y	FAC
4. Carex crinita	5	Y	FACW
5. Solidago gigant	2	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	27	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	42	x 2 =	84
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	142 (A)		384 (B)

Prevalence Index = B/A = 2.7

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-013-W1

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
0-2	2.5Y,5,1	95	7.5YR,4,6	5	C	M	Silty Clay Loam	
2-16	2.5Y,5,2	60	7.5YR,5,8	25	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-023-U1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 4-5

Subregion (LRR or MLRA): _____ Lat: 32.553 Long: -88.5958 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-023-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	15	Y	FAC
2. Quercus falcata	10	Y	FACU
3. Pinus taeda	5	N	FAC
4. Liquidambar sty	5	N	FAC
5.			
6.			
	35 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Sapling Stratum (Plot size: 15)			
1. Acer rubrum	20	Y	FAC
2. Ilex opaca	15	Y	FAC
3. Liquidambar sty	15	Y	FAC
4. Quercus nigra	3	N	FAC
5.			
6.			
	53 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2. Gelsemium sempe	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
50% of total cover: ____	20% of total cover: ____		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	88	x 3 =	264
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	98 (A)		304 (B)

Prevalence Index = B/A = 3.1

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-01-023-U1

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,2,2	100	,,	-1			Silt Loam	
1-12	10YR,5,3	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-023-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.5528 Long: -88.5958 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-01-023-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus pagoda	60	N	FACW
2. Pinus taeda	30	Y	FAC
3. Liquidambar sty	10	N	FAC
4.			
5.			
6.			
	100 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	15	Y	FAC
2. Fagus grandifol	5	Y	FACU
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Gelsemium sempe	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	15 = 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 55.555555 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	70	x 3 =	210
FACU species	5	x 4 =	20
UPL species	15	x 5 =	75
Column Totals:	150 (A)		425 (B)

Prevalence Index = B/A = 2.83

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-023-W1

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
0-12	10YR,4,2	97	10YR,6,8	3	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 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)**
- ___ 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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-024-U1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.552 Long: -88.593 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

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

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

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

Sampling Point: WW-01-024-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carpinus caroli	40	Y	FAC
2. Quercus alba	10	N	FACU
3. Quercus nigra	10	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Fagus grandifol	10	Y	FACU
2. Ilex opaca	2	N	FAC
3. Quercus nigra	2	N	FAC
4.			
5.			
6.			
	14	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Leersia virgini	8	Y	FACW
2. Smilax herbacea	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	13	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 4 (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	8	x 2 =	16
FAC species	59	x 3 =	177
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	87 (A)		273 (B)

Prevalence Index = B/A = 3.14

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-024-U1

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
0-12	10R,4,4	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-024-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.5521 Long: -88.5931 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-024-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Y	FAC
2. Quercus michaux	20	N	FACW
3. Fagus grandifol	10	N	FACU
4. Magnolia virgin	5	N	FACW
5.			
6.			
	65	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Arundinaria gig	50	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	30	x 3 =	90
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	115 (A)		280 (B)

Prevalence Index = B/A = 2.43

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-024-W1

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
0-1	10YR,3,3	100	,,	-1			Silty Clay Loam	
1-12	10YR,5,2	70	10YR,5,8	30	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-025-U1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 2-3

Subregion (LRR or MLRA): Lat: 32.5513 Long: -88.5953 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Urban land complex, 5 to 15 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-025-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	30	Y	FAC
2. Pinus taeda	20	Y	FAC
3. Quercus nigra	10	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	10	Y	FAC
2. Quercus alba	10	Y	FACU
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Gelsemium sempe	10	Y	FAC
2. Ilex opaca	5	Y	FAC
3. Smilax rotundif	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 70 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	100	x 3 =	300
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	110 (A)		340 (B)

Prevalence Index = B/A = 3.09

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-025-U1

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
0-4	10YR,2,2	100	,,	-1			Loam	
4-16	10YR,5,6	80	7.5YR,5,6	20	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-025-W1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5513 Long: -88.5952 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale complex, 5 to 25 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-025-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	20	N	FAC
2. Pinus taeda	10	Y	FAC
3. Quercus alba	5	N	FACU
4. Acer rubrum	5	N	FAC
5.			
6.			
	40	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3. Quercus alba	5	Y	FACU
4. Ilex opaca	2	N	FAC
5.			
6.			
	22	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	8	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Gelsemium sempe	8	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	18	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	85 (A)		265 (B)

Prevalence Index = B/A = 3.12

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-025-W1

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
0-12	10YR,5,2	93	7.5YR,4,6	7	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-026-U1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-5

Subregion (LRR or MLRA): Lat: 32.5512 Long: -88.5884 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-026-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	45	Y	FAC
2. Liquidambar sty	15	Y	FAC
3. Quercus pagoda	10	N	FACW
4.			
5.			
6.			
	70	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus alba	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Solidago canade	5	Y	FACU
3. Pinus taeda	5	Y	FAC
4. Gelsemium sempe	3	N	FAC
5. Quercus nigra	2	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 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	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	105 (A)		320 (B)

Prevalence Index = B/A = 3.05

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-01-026-U1

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
0-2	10YR,3,1	100	,,	-1			Sandy Loam	
2-14	10YR,5,6	100	,,	-1			Loamy Coarse Sand	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-026-W1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5512 Long: -88.5883 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-026-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	20	Y	FAC
3. Quercus phellos	10	N	FACW
4. Quercus pagoda	5	N	FACW
5. Quercus nigra	5	N	FAC
6.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Carex crinita	8	Y	FACW
2. Smilax rotundif	5	Y	FAC
3. Echinochloa cru	5	Y	FACW
4. Scirpus cyperin	2	N	OBL
5. Andropogon virg	2	N	FAC
6. Juncus effusus	2	N	OBL
7.			
8.			
9.			
10.			
11.			
	24	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	4	x 1 =	4
FACW species	28	x 2 =	56
FAC species	72	x 3 =	216
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	104 (A)		276 (B)

Prevalence Index = B/A = 2.65

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-026-W1

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
0-2	10YR,2,3	100	,,	-1			Loam	debris intermixed
2-16	10YR,5,2	75	7.5YR,5,6	25	C	M	Sandy Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-027-U1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 7

Subregion (LRR or MLRA): Lat: 32.5507 Long: -88.5848 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-027-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	70	Y	FAC
2. Acer rubrum	15	N	FAC
3.			
4.			
5.			
6.			
	85 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	8 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Solidago canade	10	Y	FACU
2. Poa pratensis	5	Y	FACU
3. Leersia virgini	2	N	FACW
4. Andropogon virg	2	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	19 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	2	x 2 =	4
FAC species	87	x 3 =	261
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	104 (A)		325 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-01-027-U1

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
0-1	10YR,2,2	100	,,	-1			Loam	
1-16	10YR,5,4	100	,,	-1			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-027-W1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5506 Long: -88.5849 Datum: WGS 1984

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-027-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Y	FAC
2. Acer rubrum	25	Y	FAC
3. Liquidambar sty	5	N	FAC
4.			
5.			
6.			
	90	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	20	Y	FAC
2. Quercus nigra	5	Y	FAC
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Quercus nigra	2	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	2	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	117	x 3 =	351
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	117 (A)		351 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-027-W1

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
0-1	10YR,3,2	100	,,	-1			Loam	
1-8	10YR,5,4	90	10YR,5,6	10	C	M	Clay Loam	
8-18	10YR,3,1	95	5YR,3,3	5	C	M	Sandy Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-028-U1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5479 Long: -88.5881 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-028-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	65	Y	FAC
2. Acer rubrum	10	N	FAC
3. Liquidambar sty	5	N	FAC
4.			
5.			
6.			
	80	= Total Cover	
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 15)			
1. Acer rubrum	30	Y	FAC
2. Quercus nigra	10	Y	FAC
3. Quercus alba	10	Y	FACU
4. Liquidambar sty	10	Y	FAC
5. Magnolia virgin	5	N	FACW
6.			
	65	= Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Gelsemium sempe	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	150	x 3 =	450
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	165 (A)		500 (B)

Prevalence Index = B/A = 3.03

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-01-028-U1

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
0-2	10YR,3,2	100	,,	-1			Sandy Loam	
2-14	10YR,5,4	100	,,	-1			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-028-W1

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5478 Long: -88.5884 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-028-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	25	Y	FAC
2. Magnolia virgin	20	Y	FACW
3. Pinus taeda	20	Y	FAC
4. Quercus nigra	10	N	FAC
5. Acer rubrum	10	N	FAC
6.			
	85	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	15	Y	FAC
2. Magnolia virgin	15	Y	FACW
3. Quercus nigra	5	N	FAC
4. Liquidambar sty	5	N	FAC
5.			
6.			
	40	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Arundinaria gig	20	Y	FACW
2. Carex crinita	10	Y	FACW
3. Echinochloa cru	10	Y	FACW
4. Smilax rotundif	10	Y	FAC
5. Pinus taeda	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	55	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 11 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 81.818181 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	75	x 2 =	150
FAC species	105	x 3 =	315
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	180 (A)		465 (B)

Prevalence Index = B/A = 2.58

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-028-W1

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,3,1	92	10YR,6,8	5	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/12/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-01-028-W2

Investigator(s): Overcash, Dana, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.5467 Long: -88.5894 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-028-W2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	30	Y	FACW
2. Pinus taeda	20	Y	FAC
3. Acer rubrum	10	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	30	Y	FAC
2. Acer rubrum	8	N	FAC
3. Fagus grandifol	5	N	FACU
4.			
5.			
6.			
	43	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Arundinaria gig	80	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	68	x 3 =	204
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	183 (A)		444 (B)

Prevalence Index = B/A = 2.43

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-028-W2

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
0-1	10YR,3,1	100	,,	-1			Loam	
1-12	10YR,6,2	80	10YR,6,8	20	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/02/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-006-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5611 Long: -88.5891 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-006-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	50	Y	FAC
2. Quercus falcata	20	Y	FACU
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Acer rubrum	35	Y	FAC
2. Pinus taeda	30	Y	FAC
3.			
4.			
5.			
6.			
	65 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	135 (A)		425 (B)

Prevalence Index = B/A = 3.15

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 (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, and 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 ✔ No ___

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

unknown herb species. can't identify due to winter dormant status. likely Panicum sp.

SOIL

Sampling Point: WW-02-006-U1

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
0-2	10YR,3,3	100	,,	-1			Clay Loam	
2-12	10YR,5,4	50	,,	-1			Clay Loam	
2-12	7.5YR,5,8	50	,,	-1			Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/02/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-006-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.5611 Long: -88.5888 Datum: WGS 1984

Soil Map Unit Name: Annemaine fine sandy loam NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-006-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	30	N	FACW
2. Acer rubrum	25	Y	FAC
3. Pinus taeda	10	N	FAC
4.			
5.			
6.			
	65	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	20	Y	FAC
2. Liquidambar sty	20	Y	FAC
3.			
4.			
5.			
6.			
	40	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Saccharum gigan	25	Y	FACW
2. Andropogon virg	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	135 (A)		350 (B)

Prevalence Index = B/A = 2.59

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-006-W1

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
0-12	5YR,5,1	60	5YR,4,6	40	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-007-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.5427 Long: -88.5764 Datum: WGS 1984

Soil Map Unit Name: Quitman loam, 0 to 2 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-007-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Y	FAC
2. Liquidambar sty	5	N	FAC
3.			
4.			
5.			
6.			
	65 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	30	Y	FAC
2. Quercus nigra	20	Y	FAC
3. Acer rubrum	10	N	FAC
4.			
5.			
6.			
	60 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	30 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.142857 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	155	x 3 =	465
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	185 (A)		585 (B)

Prevalence Index = B/A = 3.16

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-007-U1

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
0-2	10YR,3,3	100	,,	-1			Silty Clay Loam	
2-6	10YR,5,4	100	,,	-1			Silty Clay Loam	
6-14	10YR,5,3	70	10YR,5,8	30			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-007-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5427 Long: -88.5763 Datum: WGS 1984

Soil Map Unit Name: Quitman loam, 0 to 2 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-007-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	35	Y	FAC
2. Liquidambar sty	20	Y	FAC
3. Quercus phellos	20	N	FACW
4. Quercus nigra	10	N	FAC
5. Acer rubrum	5	N	FAC
6.			
	90	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2. Quercus nigra	5	Y	FAC
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		295 (B)

Prevalence Index = B/A = 2.81

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-007-W1

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
0-12	10YR,5,2	85	7.5YR,5,8	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-008-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.5421 Long: -88.5777 Datum: WGS 1984

Soil Map Unit Name: Prentiss fine sandy loam, 0 to 2 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-008-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Y	FAC
2. Quercus	10	N	
3. Quercus nigra	10	N	FAC
4. Juniperus virgi	5	N	FACU
5.			
6.			
	85	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax auricula	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	90 (A)		280 (B)

Prevalence Index = B/A = 3.11

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-008-U1

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	2.5Y,3,3	100	,,	-1				
2-6	2.5Y,5,3	100	,,	-1				
6-14	2.5Y,6,4	100	,,	-1				

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/03/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-008-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.5423 Long: -88.5776 Datum: WGS 1984

Soil Map Unit Name: Prentiss fine sandy loam, 0 to 2 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____	
Water Table Present?	Yes ✔	No _____	Depth (inches): 8	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-008-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus pagoda	70	Y	FACW
2. Quercus phellos	20	Y	FACW
3.			
4.			
5.			
6.			
	90 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		180 (B)

Prevalence Index = B/A = 2

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-02-008-W1

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
0-14	10YR,5,2	60	7.5YR,5,8	40	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/04/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-010-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8

Subregion (LRR or MLRA): Lat: 32.5468 Long: -88.5811 Datum: WGS 1984

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-010-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	55	Y	FAC
2. Fagus grandifol	20	Y	FACU
3. Quercus nigra	10	N	FAC
4.			
5.			
6.			
	85	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	135 (A)		425 (B)

Prevalence Index = B/A = 3.15

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 (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, and 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 ✔ No _____

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

Carex sp also in plot. Can't identify due to winter dormant state.

SOIL

Sampling Point: WW-02-010-U1

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
0-5	10YR,5,4	100	,,	-1			Clay Loam	
5-14	2.5Y,6,4	100	,,	-1			Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region | City/County: Lauderdale | Sampling Date: 02/04/2015

Applicant/Owner: NAS Meridian | State: MS | Sampling Point: WW-02-010-W1

Investigator(s): Casey, Justin, Jeter, Nicole | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway | Local relief (concave, convex, none): Concave | Slope (%): 2

Subregion (LRR or MLRA): | Lat: 32.5468 | Long: -88.5809 | Datum: WGS 1984

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes | NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 2

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-010-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	20	Y	FAC
3. Magnolia virgin	20	Y	FACW
4. Quercus nigra	15	N	FAC
5.			
6.			
	95 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Magnolia virgin	20	Y	FACW
2. Pinus taeda	10	Y	FAC
3. Liquidambar sty	5	N	FAC
4.			
5.			
6.			
	35 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Osmundastrum ci	40	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	80	x 2 =	160
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	170 (A)		430 (B)

Prevalence Index = B/A = 2.53

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 (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, and 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 ✔ No _____

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

Carex so. also in plot. can't identify due to winter dormant state

SOIL

Sampling Point: WW-02-010-W1

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,4,2	100	,,	-1				
3-14	10YR,5,2	60	10YR,5,8	40	C	M	Silty Clay	

[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)**
- ___ 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** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-011-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 15

Subregion (LRR or MLRA): _____ Lat: 32.544 Long: -88.5796 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-011-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	45	Y	FAC
2. Quercus alba	20	Y	FACU
3. Fagus grandifol	20	N	FACU
4.			
5.			
6.			
	85	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 4 (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	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	90 (A)		310 (B)

Prevalence Index = B/A = 3.44

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-02-011-U1

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
0-5	10YR,4,2	100	,,	-1			Loam	
5-14	2.5Y,5,4	100	,,	-1			Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-011-U2

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5439 Long: -88.5813 Datum: WGS 1984

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-011-U2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Y	FAC
2. Platanus occide	10	N	FACW
3. Acer rubrum	5	N	FAC
4.			
5.			
6.			
	75 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		245 (B)

Prevalence Index = B/A = 2.88

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-011-U2

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
0-2	10YR,5,4	100	,,	-1			Silt Loam	
2-14	10YR,6,6	100	,,	-1			Silt Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/05/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-011-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): Lat: 32.5441 Long: -88.5796 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 8

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-02-011-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Magnolia virgin	50	Y	FACW
2. Nyssa biflora	25	Y	OBL
3.			
4.			
5.			
6.			
	75	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Nyssa biflora	10	Y	OBL
2. Quercus nigra	5	Y	FAC
3. Quercus phellos	5	Y	FACW
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Arundinaria gig	50	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	35	x 1 =	35
FACW species	105	x 2 =	210
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		260 (B)

Prevalence Index = B/A = 1.79

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-02-011-W1

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
0-14	10YR,3,1	100	,,	-1			Muck	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/11/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-011-W2

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): LRR P Lat: 32.5433 Long: -88.581 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-011-W2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	50	Y	FAC
2. Liquidambar sty	25	N	FAC
3. Pinus taeda	15	N	FAC
4.			
5.			
6.			
	90	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2. Liquidambar sty	5	Y	FAC
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Woodwardia areo	20	Y	OBL
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	120	x 3 =	360
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		380 (B)

Prevalence Index = B/A = 2.71

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-011-W2

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
0-14	10YR,2,1	90	10YR,5,8	10	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/13/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-020-U1

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5549 Long: -88.5873 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-020-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2. Quercus nigra	10	N	FAC
3. Liquidambar sty	5	N	FAC
4. Quercus stellat	5	N	UPL
5.			
6.			
	60 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	80 (A)		250 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-020-U1

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
0-14	10YR,5,6	100	,,	-1			Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/13/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-020-W1

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.5549 Long: -88.5871 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PSS

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔ No ____	
Wetland Hydrology Present?	Yes ✔ No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ____	No ✔	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 8

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-02-020-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2. Acer rubrum	20	Y	FAC
3. Liquidambar sty	20	Y	FAC
4. Magnolia virgin	15	N	FACW
5. Quercus nigra	10	N	FAC
6.			
	85 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Rubus arvensis	20	Y	FAC
2. Juncus effusus	10	Y	OBL
3. Rhynchospora fu	5	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	20 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 77.777777 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	15	x 2 =	30
FAC species	125	x 3 =	375
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	155 (A)		420 (B)

Prevalence Index = B/A = 2.71

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-020-W1

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
0-14	10YR,5,1	85	10YR,5,8	15	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/13/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-021-U1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.5485 Long: -88.5945 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-021-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Ilex opaca	20	Y	FAC
2. Magnolia grandi	10	Y	FAC
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Rubus trivialis	35	Y	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	25	= 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: 4 (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	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	90 (A)		305 (B)

Prevalence Index = B/A = 3.39

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-021-U1

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
0-14	10YR,4,3	100	,,	-1			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/14/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-021-U2

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

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

Subregion (LRR or MLRA): _____ Lat: 32.5451 Long: -88.5923 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-021-U2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	40	N	FAC
2. Fagus grandifol	20	Y	FACU
3. Pinus taeda	15	N	FAC
4. Liquidambar sty	5	N	FAC
5.			
6.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	1	= 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	71	x 3 =	213
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	101 (A)		333 (B)

Prevalence Index = B/A = 3.3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-021-U2

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,3,3	100	,,	-1			Sandy Loam	
3-14	10YR,6,4	70	10YR,5,8	30	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/13/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-021-W1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.5484 Long: -88.5945 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ____	Depth (inches): 6	
Water Table Present?	Yes ✔	No ____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-02-021-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Nyssa biflora	40	Y	OBL
2. Acer rubrum	20	Y	FAC
3.			
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Juncus effusus	5	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	45	x 1 =	45
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	65 (A)		105 (B)

Prevalence Index = B/A = 1.62

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 (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, and 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 ✔ No _____

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

Carex sp at 10 percent. cannot identify due to dormant winter characteristics

SOIL

Sampling Point: WW-02-021-W1

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
0-14	10YR,4,1	70	7.5YR,5,8	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 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)**
- ___ 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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/14/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-02-021-W2

Investigator(s): Casey, Justin, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): Lat: 32.5452 Long: -88.5922 Datum: WGS 1984

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-021-W2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	40	Y	FAC
2. Platanus occide	15	N	FACW
3. Liquidambar sty	15	N	FAC
4. Quercus nigra	10	N	FAC
5.			
6.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Acer rubrum	5	Y	FAC
3.			
4.			
5.			
6.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Woodwardia virg	5	Y	OBL
2. Juncus effusus	5	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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	20	x 2 =	40
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		320 (B)

Prevalence Index = B/A = 2.67

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 (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, and 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 ✔ No _____

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

chain fern identification difficult due to dormant winter characteristics.

SOIL

Sampling Point: WW-02-021-W2

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
0-2	10YR,4,2	100	,,	-1			Sandy Clay Loam	
2-6	10YR,5,2	95	7.5YR,5,8	5	C	M	Sandy Clay Loam	
6	10YR,5,2	70	7.5YR,5,8	30	C	PL	Sandy Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/14/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-03-009-U1

Investigator(s): Chevillet, Brian, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8

Subregion (LRR or MLRA): LRR Lat: 32.552 Long: -88.5774 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

upland next to fuller rd grassy swale

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-03-009-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	10	Y	FACU
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Cynodon dactylo	50	Y	FACU
2. Rubus arvensis	20	Y	FAC
3. Smilax rotundif	10	N	FAC
4. Andropogon gera	5	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	95 (A)		345 (B)

Prevalence Index = B/A = 3.63

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 (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, and 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 _____ No ✓

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

bareground20%

SOIL

Sampling Point: WW-03-009-U1

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
0-18	10YR,6,4	100	,,	-1	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 02/14/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-03-009-W1

Investigator(s): Chevillet, Brian, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR Lat: 32.5522 Long: -88.5776 Datum: WGS 1984

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

PFO/SS, poor condition

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-03-009-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	30	Y	FAC
2. Quercus falcata	10	Y	FACU
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	65 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	60 (A)		190 (B)

Prevalence Index = B/A = 3.17

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 (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, and 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 ✔ No _____

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

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SOIL

Sampling Point: WW-03-009-W1

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
0-18	10YR,5,2	80	7.5YR,4,6	20	C	M	Silty Clay Loam	concretions

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/20/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-001-UP1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 3602406 Long: 350400.9 Datum: NAD83

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

up pit upslope 15 ft NE of wet pit at base of small slope

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-001-UP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carpinus caroliniana	45	Y	FAC
2. Magnolia grandiflora	15	Y	FAC
3. Quercus phellos	5	N	FACW
4.			
5.			
6.			
	65 = Total Cover		
50% of total cover: 32.5	20% of total cover: 13		
Sapling Stratum (Plot size: 15)			
1. Carpinus caroliniana	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Shrub Stratum (Plot size: 15)			
1. Rubus allegheniensis	10	Y	UPL
2. Smilax rotundifolia	10	Y	FAC
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	75	x 3 =	225
FACU species	0	x 4 =	0
UPL species	10	x 5 =	50
Column Totals:	90 (A)		285 (B)

Prevalence Index = B/A = 3.17

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-001-UP1

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
0-2	10YR4/3	100					Loamy Sand	
2-4	10YR6/4	100					Loamy Sand	
4-16	10YR6/6	70	7.5YR5/6	30	C	M	Loamy Sand	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/20/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-001-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Base Slope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): LRR P Lat: 3602398.7 Long: 350398.4 Datum: NAD83

Soil Map Unit Name: Daleville-Jena association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Wetland at base of small slope. Mapped PFO1C.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

meets hydrology. Mapped PFO1C.

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

Sampling Point: WW-05-001-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	15	Y	FAC
2. Quercus falcata	10	Y	FACU
3. Quercus nigra	10	N	FAC
4. Carpinus caroliniana	5	N	FAC
5.			
6.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		
Sapling Stratum (Plot size: 15)			
1. Liquidambar styraciflua	5	Y	FAC
2. Ilex opaca	5	Y	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 2		
Shrub Stratum (Plot size: 15)			
1. Ilex glabra	8	Y	FACW
2. Smilax rotundifolia	5	Y	FAC
3.			
4.			
5.			
6.			
	13 = Total Cover		
50% of total cover: 6.5	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Arundinaria gigantea	20	Y	FACW
2. Woodwardia areolata	5	Y	OBL
3.			
4.			
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)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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: 87.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	28	x 2 =	56
FAC species	45	x 3 =	135
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	88 (A)		236 (B)

Prevalence Index = B/A = 2.68

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-001-WET1

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
0-2	10YR4/3	100					Silt Loam	
2-4	10YR4/3	70	10YR5/6	30	C	M	Loam	
4-10	10YR5/2	60	10YR5/8	40	C	M	Clay Loam	
10-16	10YR5/2	95	5YR4/6	5	C	PL	Silt Loam	

[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)**
- ___ 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** _____

Remarks:

soils meet hydric indicators

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Meridian NAS City/County: Lauderdale Sampling Date: 10/20/2015

Applicant/Owner: Navy State: MS Sampling Point: WW-05-002-UP1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR P Lat: 3601476.1 Long: 351808.6 Datum: NAD83

Soil Map Unit Name: Prentiss fine sandy loam, 0 to 2 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Upland pit approximately 20 ft N of wetland pit.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-002-UP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	45	Y	FAC
2. Quercus phellos	5	N	FACW
3. Liquidambar styraciflua	5	N	FAC
4.			
5.			
6.			
	55 = Total Cover		
50% of total cover: 27.5	20% of total cover: 11		
Sapling Stratum (Plot size: 15)			
1. Liquidambar styraciflua	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Shrub Stratum (Plot size: 15)			
1. Smilax rotundifolia	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Schizachyrium scoparium	25	Y	FACU
2. Diarrhena obovata	25	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	75	x 3 =	225
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	105 (A)		335 (B)

Prevalence Index = B/A = 3.19

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-002-UP1

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
0-10	10YR5/3	99	7.5YR5/6	1	C	M	Loamy Sand	

[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)**
- ___ 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** ✓

Remarks:

Depth only to 10" due to dense soils. Multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Meridian NAS City/County: Lauderdale Sampling Date: 10/20/2015

Applicant/Owner: Navy State: MS Sampling Point: WW-05-002-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): LRR P Lat: 3601465.2 Long: 351810.4 Datum: NAD83

Soil Map Unit Name: Prentiss fine sandy loam, 0 to 2 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

PFO in Pinus taeda forest. No visible connection with other nearby wetlands.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

area has ruts and small depressions throughout

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

Sampling Point: WW-05-002-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	50	Y	FAC
2. Quercus phellos	15	Y	FACW
3.			
4.			
5.			
6.			
	65	= Total Cover	

50% of total cover: 32.5 20% of total cover: 13

Sapling Stratum (Plot size: 15)			
1. Morella cerifera	15	Y	FAC
2. Acer rubrum	10	Y	FAC
3. Smilax rotundifolia	5	N	FAC
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: 15 20% of total cover: 6

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 5)			
1. Juncus effusus	30	Y	OBL
2. Arundinaria gigantea	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40	= Total Cover	

50% of total cover: 20 20% of total cover: 8

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: 0 20% of total cover: 0

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	30	x 1 =	30
FACW species	25	x 2 =	50
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		230 (B)

Prevalence Index = B/A = 2.19

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-002-WET1

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
0-2	7.5YR2/1	100					Loamy Sand	
2-12	10YR6/2	90	7.5YR5/6	10	C	M	Loamy Sand	

[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)**
- ___ 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** _____

Remarks:

too dense to dig past 12". multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/21/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-005-UP1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): LRR P Lat: 3602302.8 Long: 351324.8 Datum: NAD83

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

Up pit approximately 25 ft S upslope of wet pit.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

no hydrologic indicators

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

Sampling Point: WW-05-005-UP1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1. Fagus grandifolia	40	Y	FACU
2. Quercus nigra	10	Y	FAC
3.			
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Shrub Stratum (Plot size: 15)			
1. Smilax rotundifolia	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (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	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	75 (A)		265 (B)

Prevalence Index = B/A = 3.53

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-005-UP1

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
0-2	10YR4/3	100					Fine Sandy Loam	
2-116	2.5Y6/4	100					Fine Sand	

[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)**
- ___ 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** ✓

Remarks:

soils are not hydric

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/21/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-005-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 3602320.6 Long: 351328 Datum: NAD83

Soil Map Unit Name: Ora fine sandy loam, 5 to 8 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

Mapped as NWI PFO1A. At base of small slope, draining south.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-05-005-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Y	FAC
2. Quercus phellos	25	Y	FACW
3.			
4.			
5.			
6.			
	55	= Total Cover	
50% of total cover: 27.5	20% of total cover: 11		
Sapling Stratum (Plot size: 15)			
1. Liquidambar styraciflua	10	Y	FAC
2. Pinus elliottii	10	Y	FACW
3.			
4.			
5.			
6.			
	20	= Total Cover	
50% of total cover: 10	20% of total cover: 4		
Shrub Stratum (Plot size: 15)			
1. Rubus allegheniensis	2	Y	UPL
2.			
3.			
4.			
5.			
6.			
	2	= Total Cover	
50% of total cover: 1	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Diarrhena obovata	40	Y	FAC
2. Juncus effusus	2	N	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	42	= Total Cover	
50% of total cover: 21	20% of total cover: 8.4		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	35	x 2 =	70
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	119 (A)		322 (B)

Prevalence Index = B/A = 2.71

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-005-WET1

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
0-2	10YR4/2						Sandy Loam	
2-6	10YR4/2	95	7.5YR4/6	5	C	M	Loam	
6-16	2.5Y5/2	75	7.5YR4/6	25	C	M	Sand	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/22/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-008-UP1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): LRR P Lat: 3603084.5 Long: 352126.5 Datum: NAD83

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

upland pit approximately 15 ft N of wetland pit upslope

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-008-UP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	30	Y	FAC
2. Nyssa biflora	5	N	OBL
3. Liquidambar styraciflua	5	N	FAC
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: 20	20% of total cover: 8		

Sapling Stratum (Plot size: 15)			
1. Liquidambar styraciflua	15	Y	FAC
2. Quercus bicolor	5	Y	FACW
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: 10	20% of total cover: 4		

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Herb Stratum (Plot size: 5)			
1. Smilax rotundifolia	45	Y	FAC
2. Diarrhena obovata	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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: 66.67 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	5	x 2 =	10
FAC species	100	x 3 =	300
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		315 (B)

Prevalence Index = B/A = 2.86

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-008-UP1

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
0-2	10YR4/3	100					Loamy Sand	
2-12	10YR4/4	100					Loamy Sand	

[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)**
- ___ 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** ✓

Remarks:

soils too hard for deeper than 12". multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/22/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-008-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Step Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR or MLRA): LRR P Lat: 3603076.6 Long: 352127.1 Datum: NAD83

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

on edge of Mud Lake, mapped NWI PUBHH. At base of small slope.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-05-008-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	25	Y	FAC
2. Nyssa biflora	15	Y	OBL
3. Liquidambar styraciflua	5	N	FAC
4. Taxodium distichum	5	N	OBL
5.			
6.			
	50 = Total Cover		

50% of total cover: 25 20% of total cover: 10

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	10	Y	FAC
2. Liquidambar styraciflua	5	Y	FAC
3. Quercus falcata	5	Y	FACU
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: 10 20% of total cover: 4

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 5)			
1. Diarrhena obovata	60	Y	FAC
2. Smilax rotundifolia	10	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: 35 20% of total cover: 14

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	140 (A)		385 (B)

Prevalence Index = B/A = 2.75

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-008-WET1

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
0-2	10YR4/2	98	7.5YR4/6	2	C	PL	Loamy Sand	
2-8	10YR5/2	90	10YR5/8	10	C	M	Loamy Sand	
8-12	10YR6/2	85	7.5YR5/8	15	C	M	Loamy Sand	

[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)**
- ___ 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** _____

Remarks:

soils too hard for deeper than 12". multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/22/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-009-UPL1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA): LRR P Lat: 3603185.8 Long: 352353.8 Datum: NAD83

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

upland pit approximately 15 ft upslope S of wetland pit

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-009-UPL1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	40	Y	FAC
2. Quercus nigra	5	N	FAC
3. Pinus taeda	5	N	FAC
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover: 25	20% of total cover: 10		
Sapling Stratum (Plot size: 15)			
1. Juniperus communis	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: 2.5	20% of total cover: 1		
Shrub Stratum (Plot size: 15)			
1. Ilex glabra	5	Y	FACW
2. Morella cerifera	5	Y	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: 5	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Smilax bona-nox	15	Y	FAC
2. Rubus allegheniensis	10	Y	UPL
3. Diarrhena obovata	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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: 71.43 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	80	x 3 =	240
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	100 (A)		320 (B)

Prevalence Index = B/A = 3.2

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-009-UPL1

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
0-2	10YR4/3	100					Silt Loam	
2-8	7.5YR4/4	100					Silt Loam	

[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)**
- ___ 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** ✓

Remarks:

soils too hard for deeper than 8". multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Lauderdale Sampling Date: 10/22/2015

Applicant/Owner: NAS Meridian State: MS Sampling Point: WW-05-009-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 3603189.4 Long: 352359 Datum: NAD83

Soil Map Unit Name: Sweatman association, 5 to 35 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

depressional area. fed by culvert under road. No visible outflow.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-05-009-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar styraciflua	40	Y	FAC
2. Nyssa sylvatica	5	N	FAC
3.			
4.			
5.			
6.			
	45 = Total Cover		
50% of total cover: 22.5	20% of total cover: 9		
Sapling Stratum (Plot size: 15)			
1. Acer rubrum	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: 7.5	20% of total cover: 3		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Diarrhena obovata	15	Y	FAC
2. Smilax bona-nox	15	Y	FAC
3. Dichanthelium scoparium	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
50% of total cover: 17.5	20% of total cover: 7		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	95 (A)		280 (B)

Prevalence Index = B/A = 2.95

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-009-WET1

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	10YR4/2	100					Loam	
3-7	10YR4/2	95	7.5YR4/6	10	C	PL	Fine Sandy Loam	
7-8	10YR4/2	80	5YR4/6	20	C	M	Fine Sandy Loam	

[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)**
- ___ 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** _____

Remarks:

soils too hard for deeper than 8". multiple pits attempted.

A-2 NAS Meridian and Potential Transmission Corridor Stream Datasheets

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STREAM ID: SS SS-01-001

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/04/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer raccons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

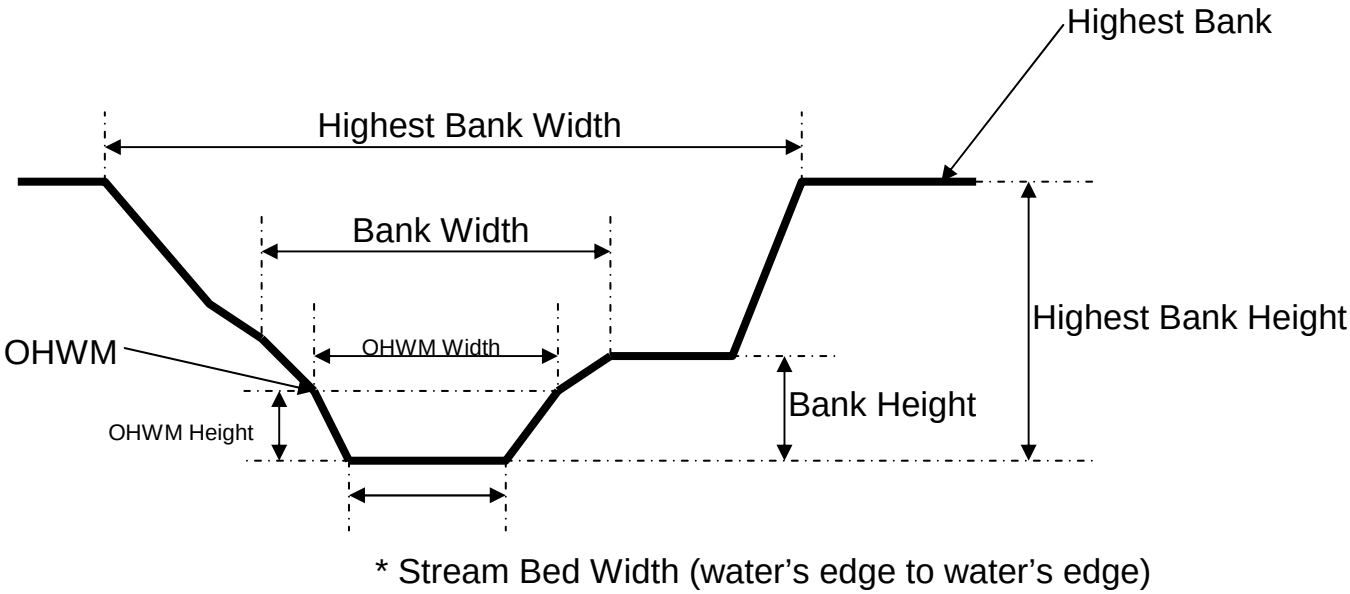
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-004

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/02/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☑ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

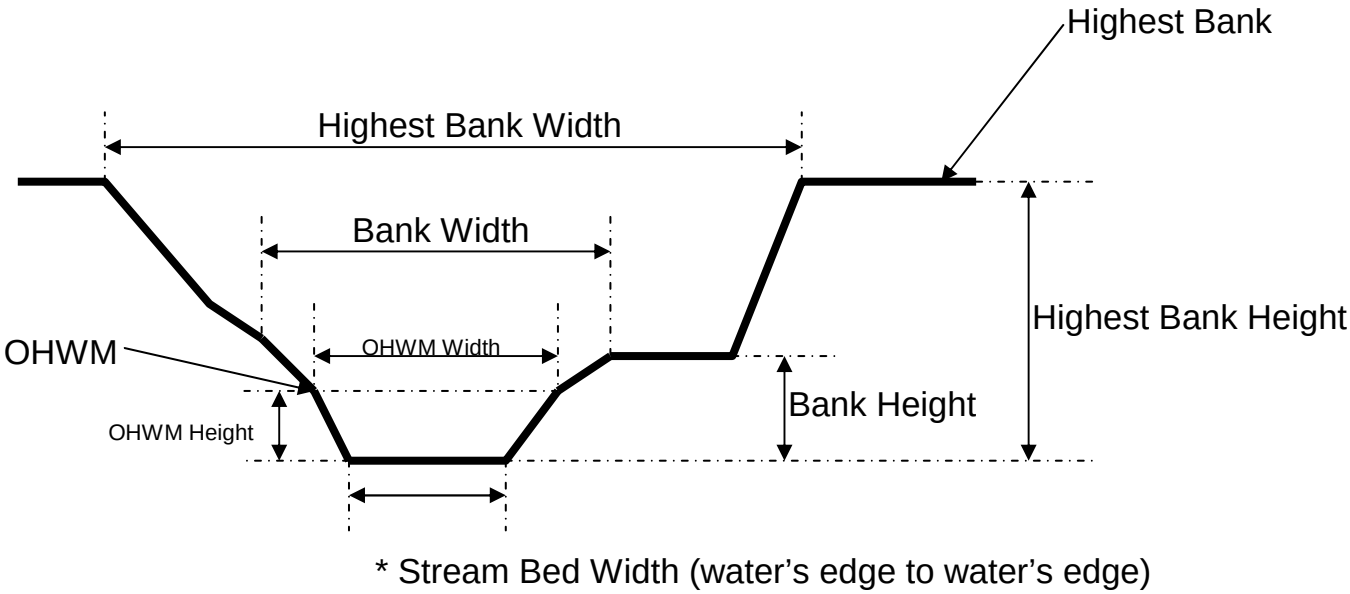
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-004B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

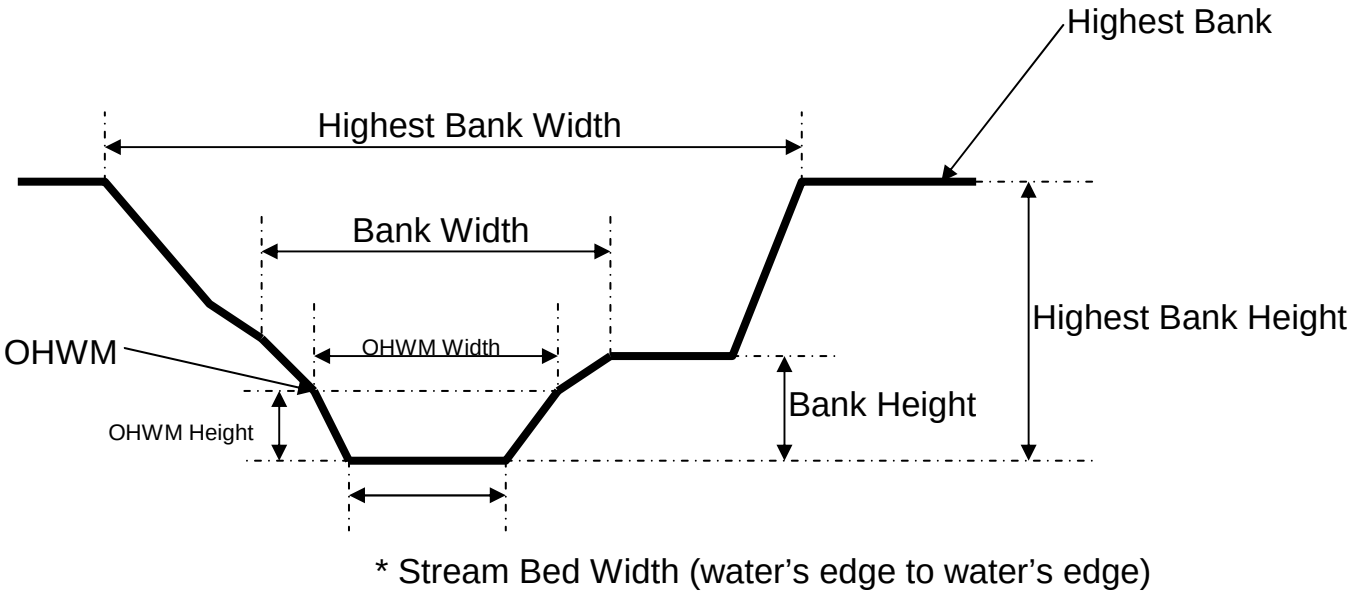
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 3.50000000	Height (ft): 4.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ yes
☐ no
If yes, list:
crawfish, frogs

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, songbirds, raccoon

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

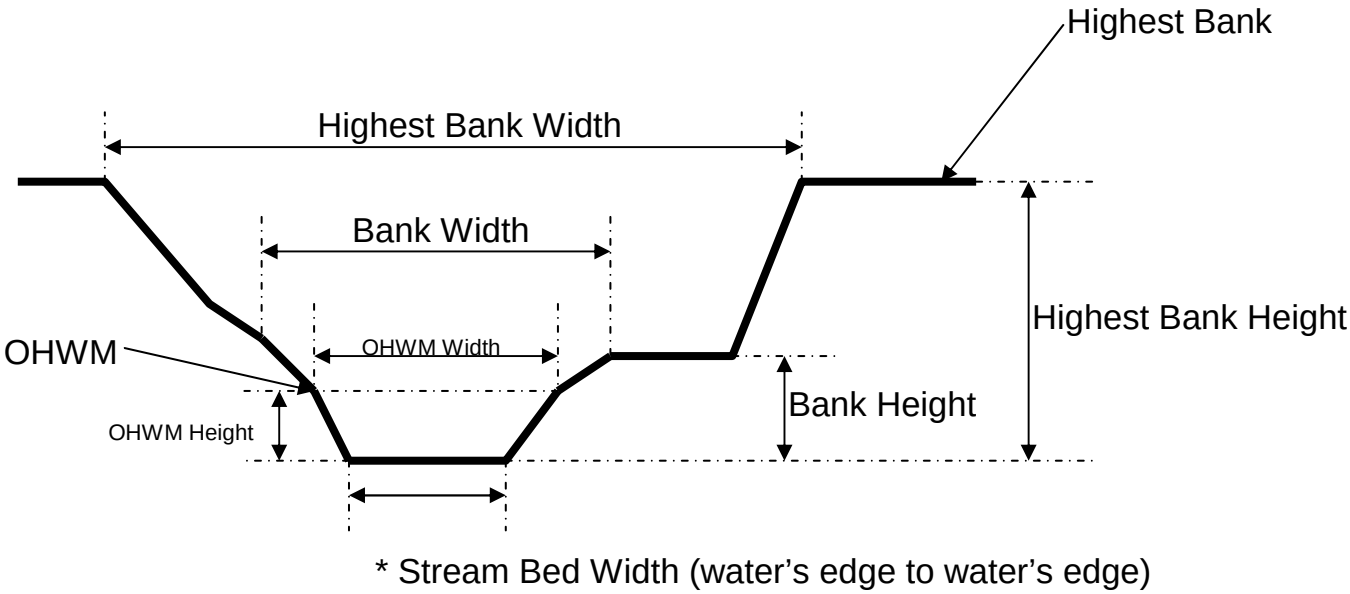
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005-2

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 13.0000000(

Width (ft) (bank to bank): 120.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☑ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 8.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 8.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 2.00000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

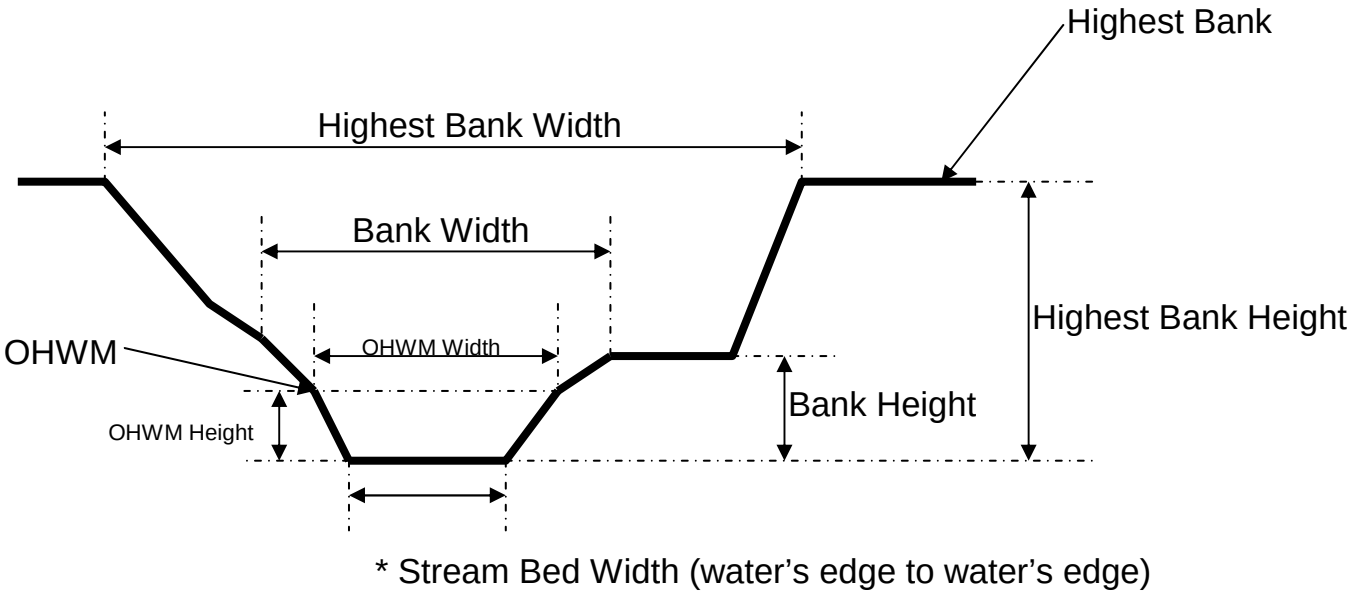
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.50000000	Height (ft): 0.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

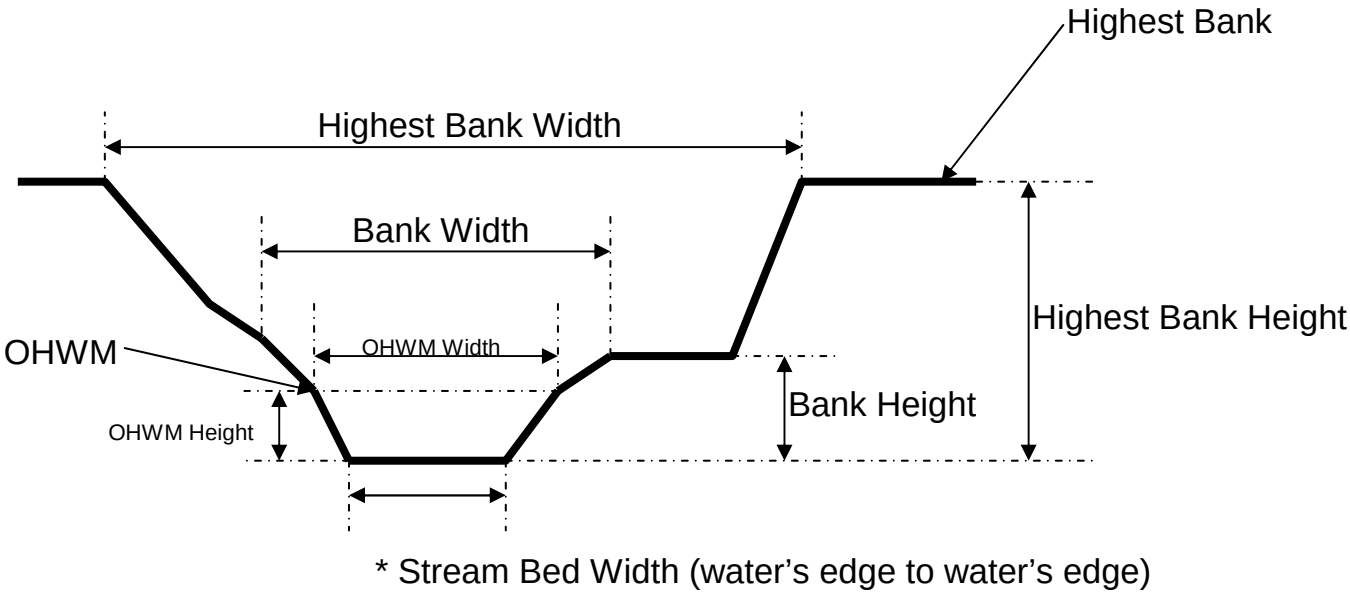
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

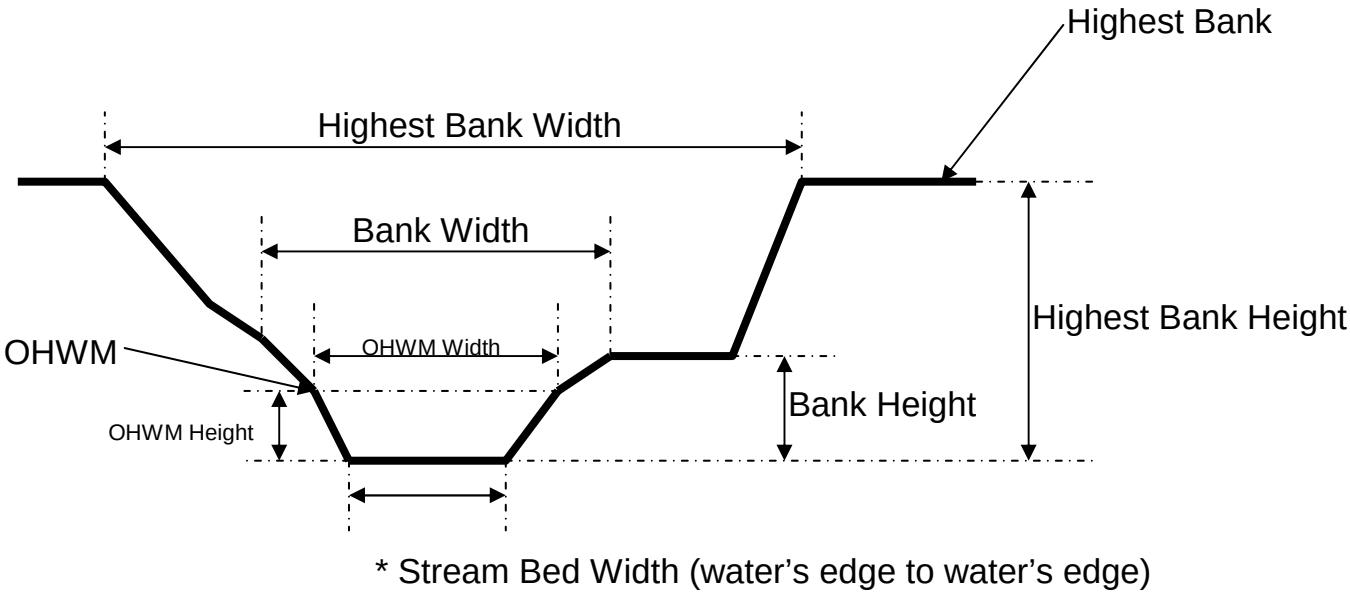
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005C

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ yes
☐ no
If yes, list:
crayfish

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

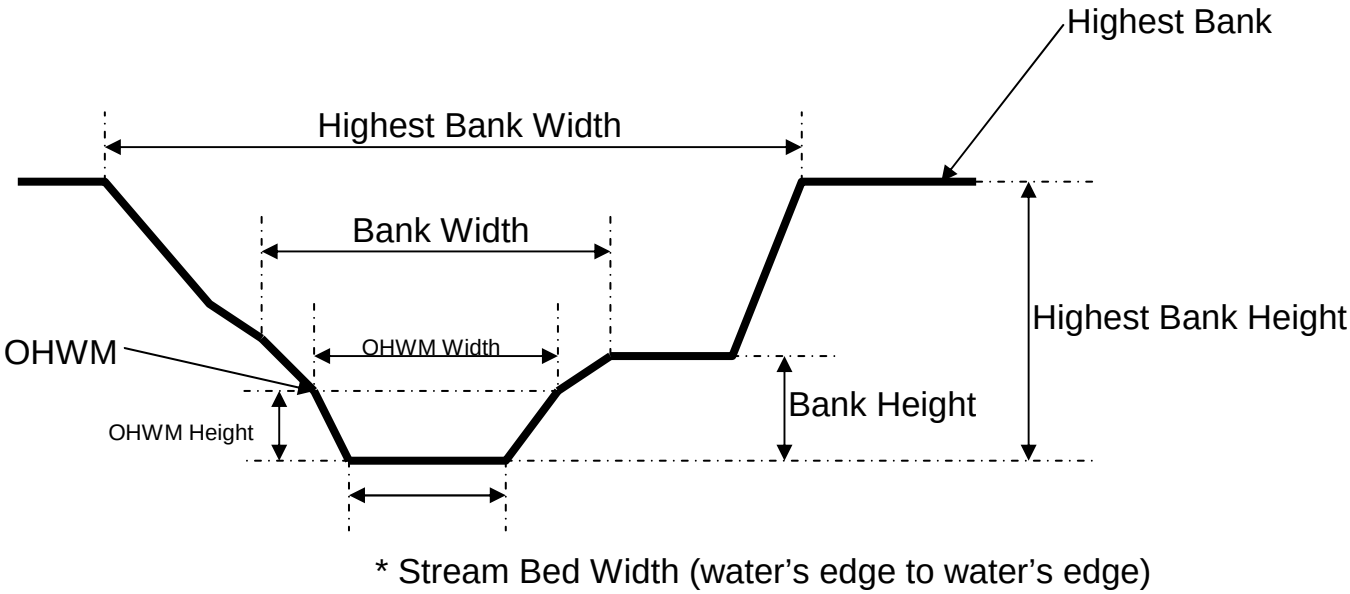
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-005D

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/03/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 0.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other na

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 2.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

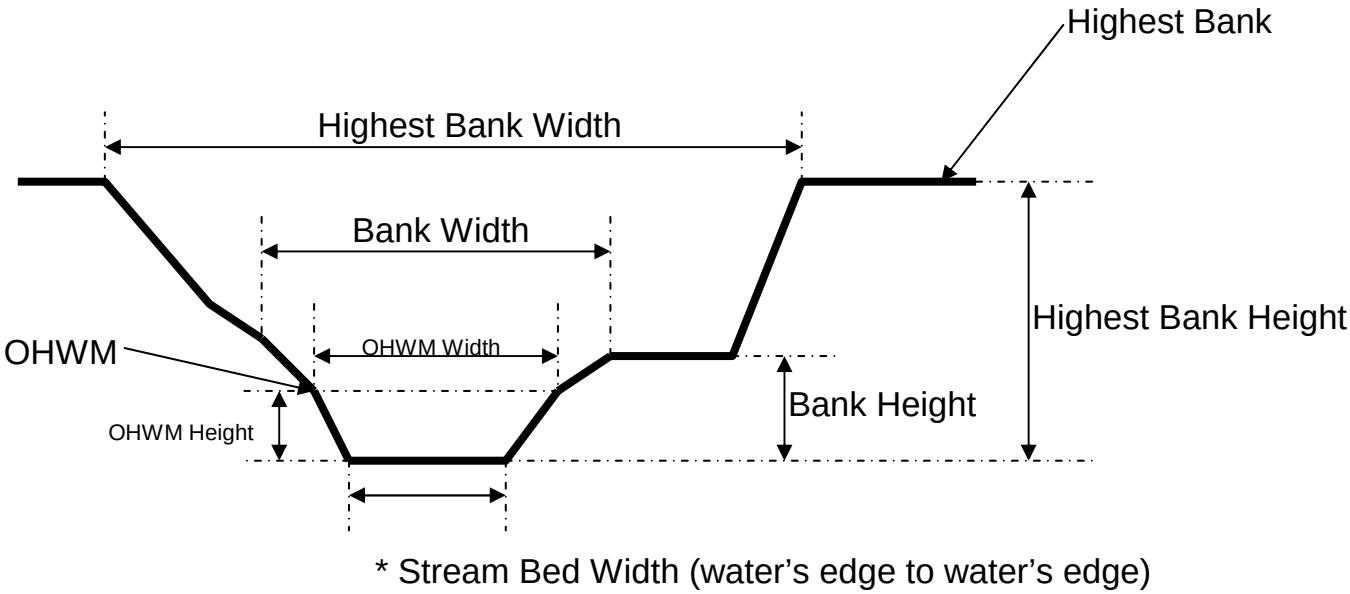
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

goes in and out from a stream to a drain



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-006

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/04/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☑ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 5.00000000

Width (ft) (bank to bank): 8.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

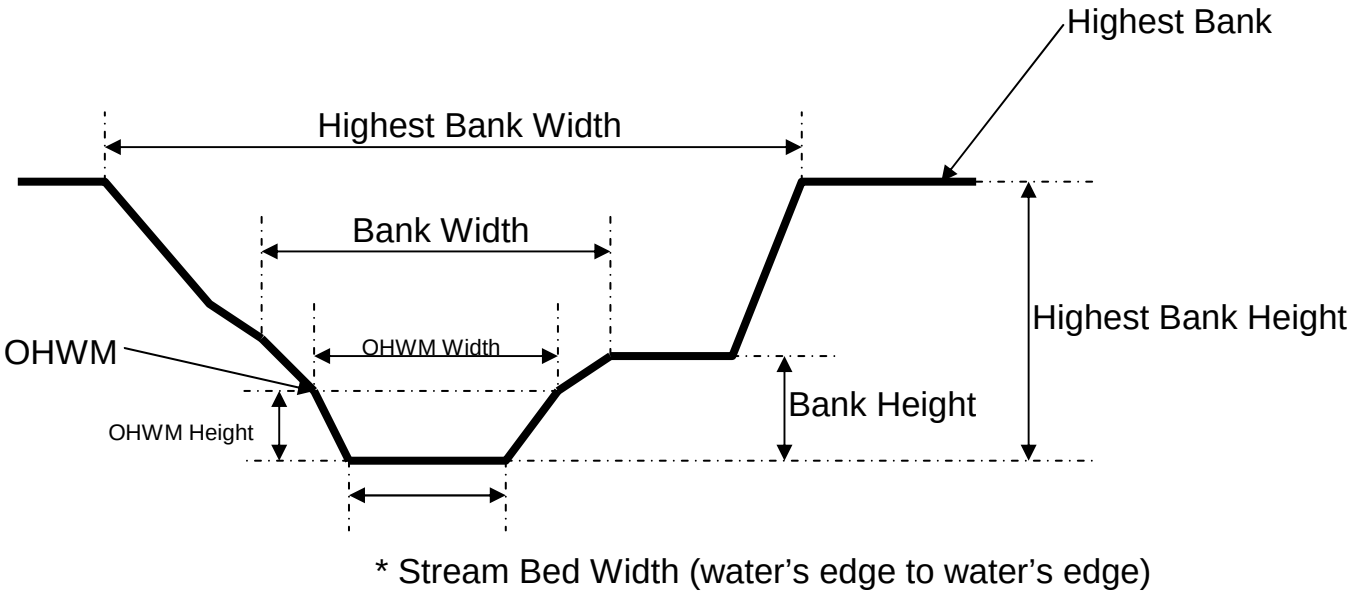
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☐ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-007

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/05/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: N

Width (ft) (water's edge to water's edge): 0.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

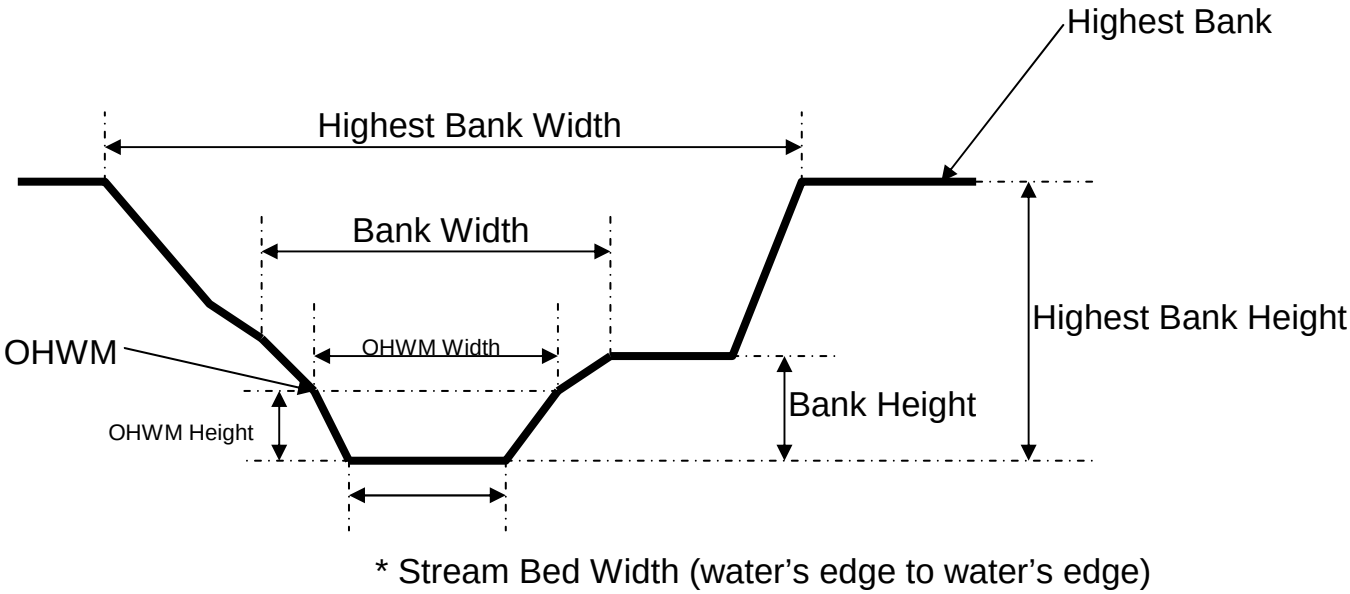
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-010

STREAM DATA

☑ **ROW** ☐ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/12/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 3.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.75000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

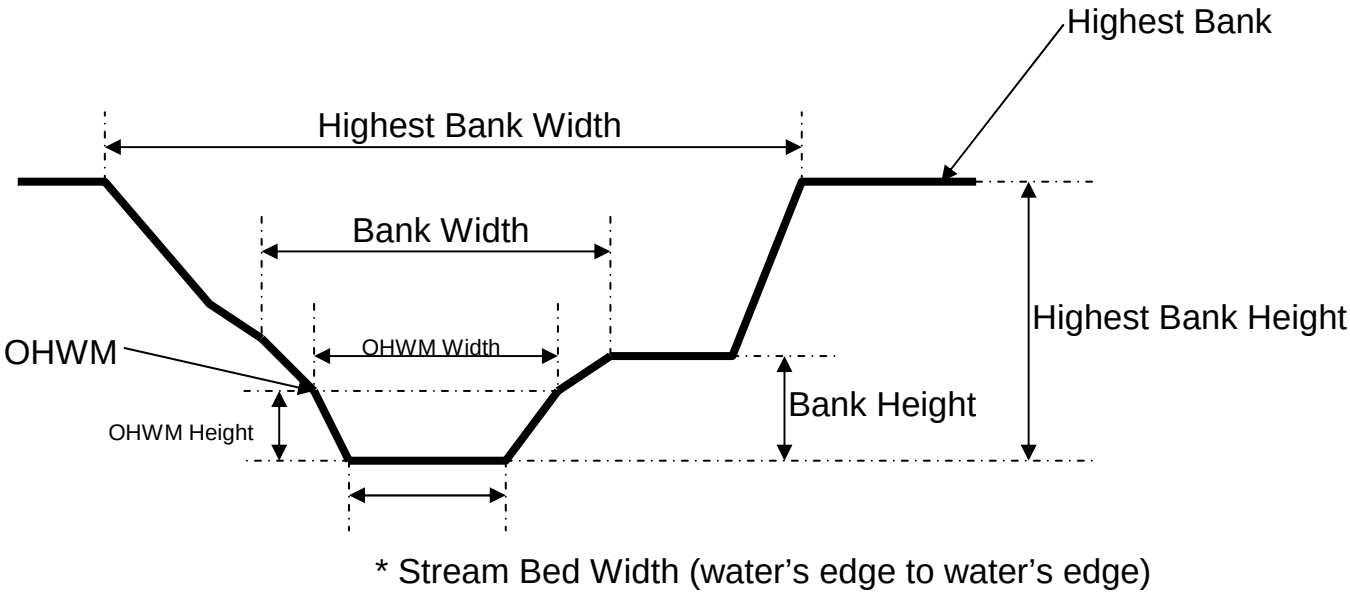
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-011

STREAM DATA

☑ **ROW** ☐ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/12/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Shultz, Dave

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: SS

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.50000000	**Height (ft):** 0.50000000
Slope: ☑ 0-30º (4:1)	**Slope:** ☑ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.25000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

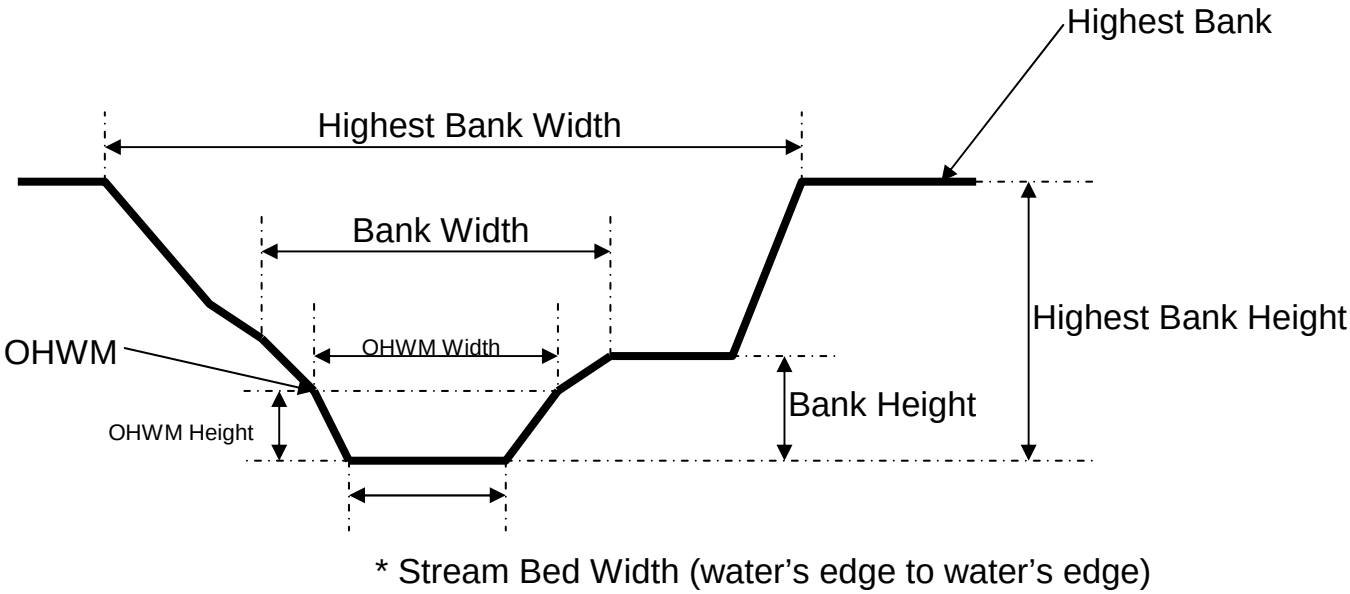
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-012

STREAM DATA

☑ **ROW** ☐ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/12/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Shultz, Dave

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 4.00000000

Width (ft) (bank to bank): 16.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 8.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 8.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 2.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☑ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer, raccoon

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☑ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

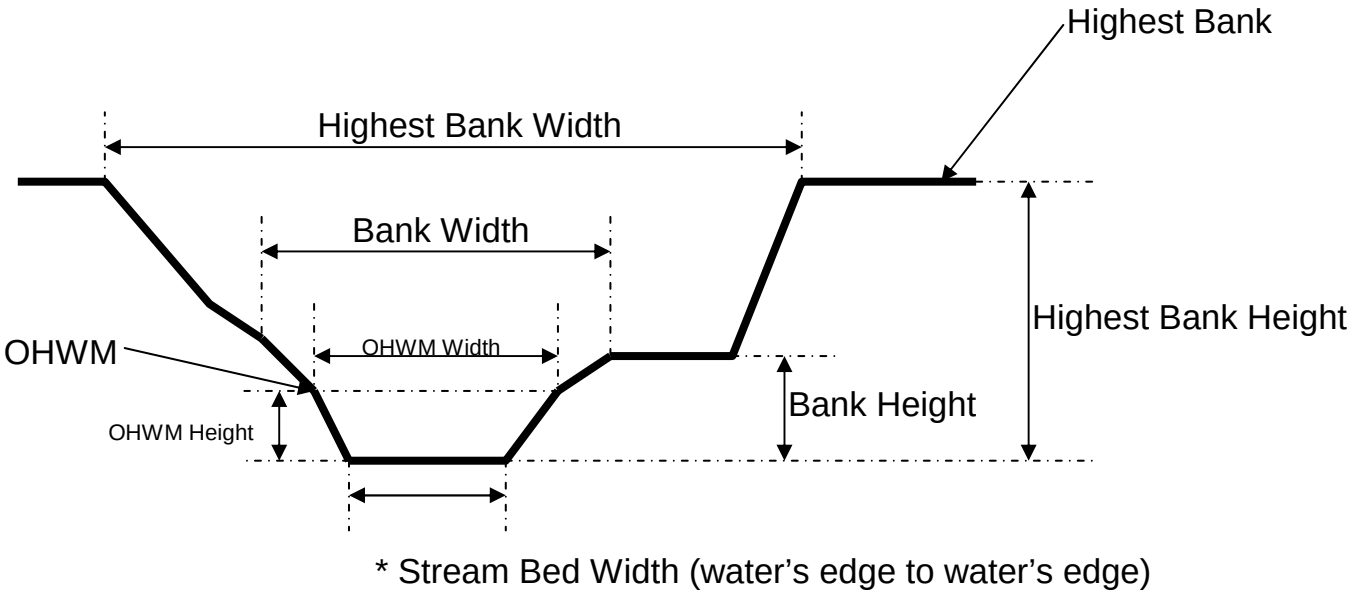
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☑ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-012A

STREAM DATA

☑ **ROW** ☐ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/12/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Shultz, Dave

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 4.00000000	**Height (ft):** 4.00000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 2.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
raccoons, deer

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☑ changes in character of soil
- ☑ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

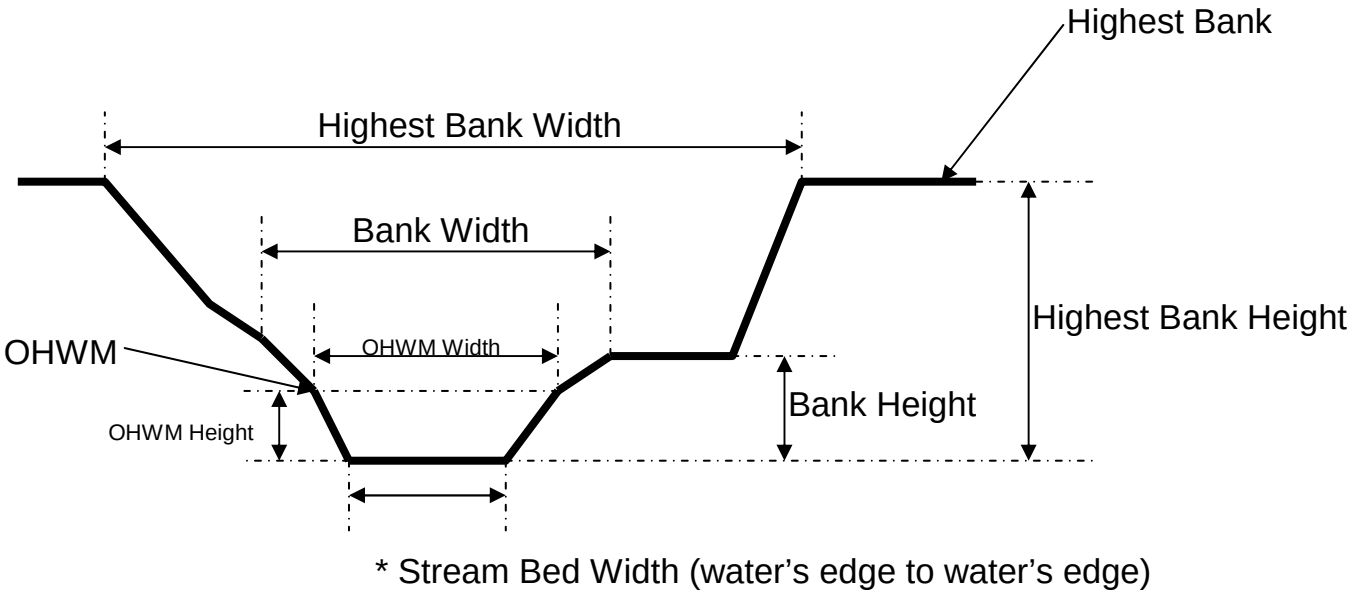
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-003

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/02/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.50000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.20000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.20000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.00000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☑ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

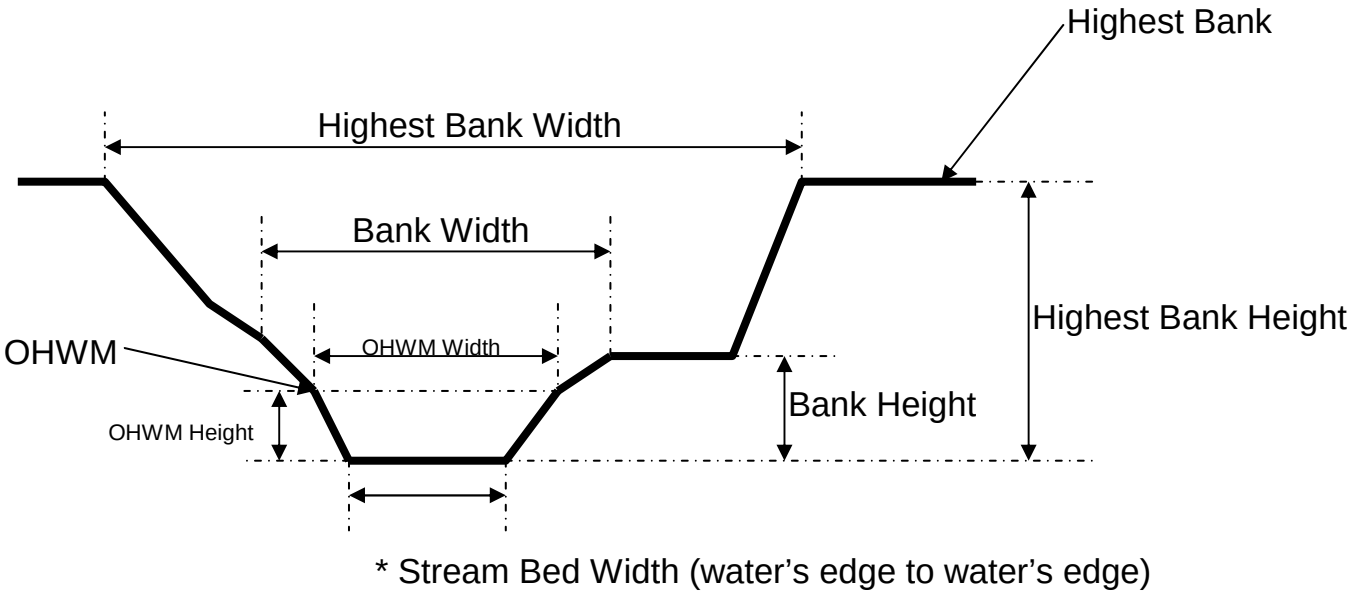
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-004

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/02/2015

Stream Type: ☐ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 8.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.70000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☐ Undercutting ☑ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

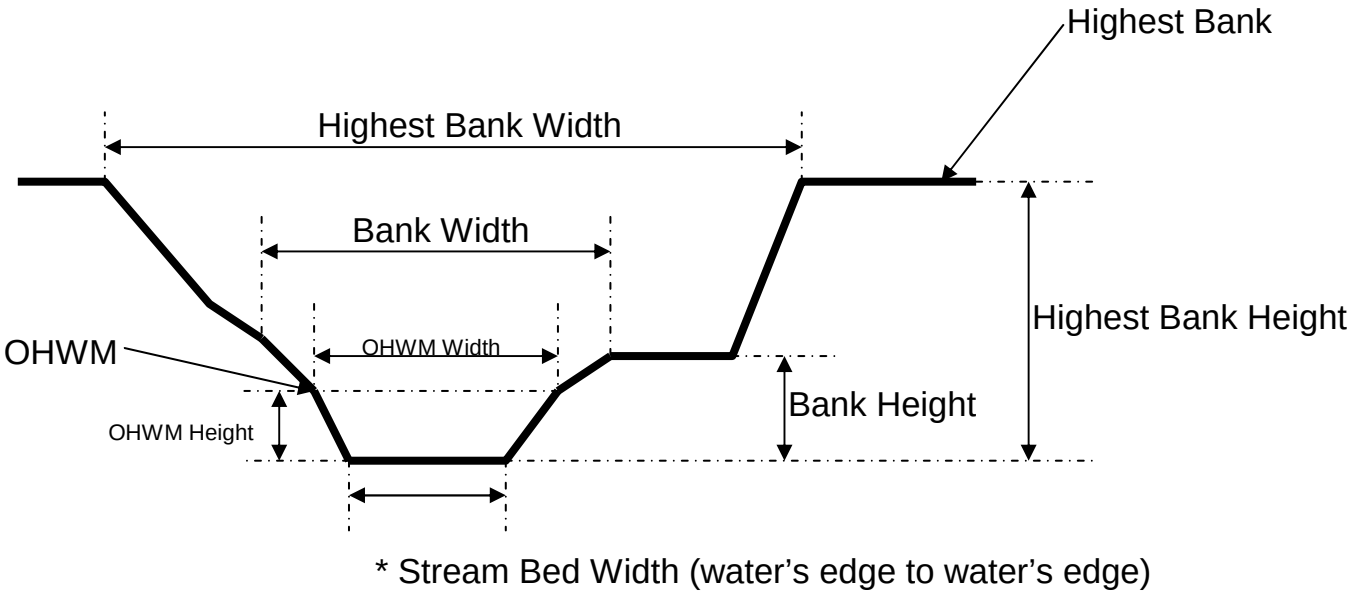
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
- ☐ natural
- ☑ manmade – Explain: ditch through pasture
- ☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-005

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/03/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.50000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.50000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.20000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer and raccoons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

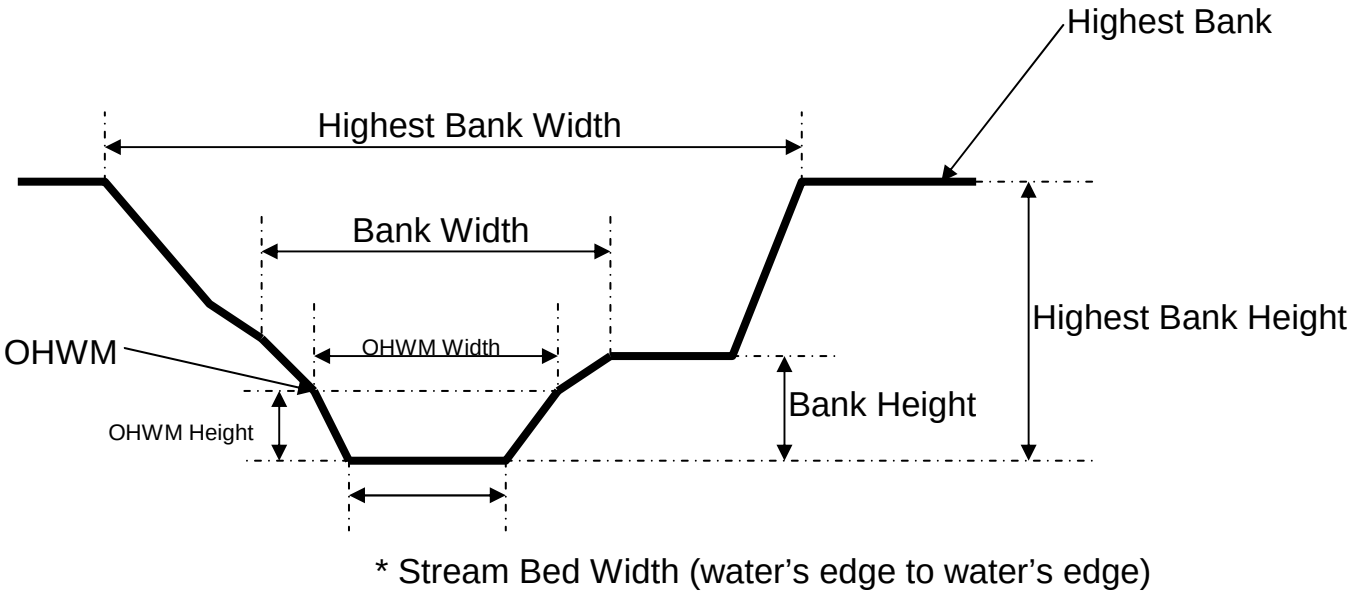
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-006

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/03/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

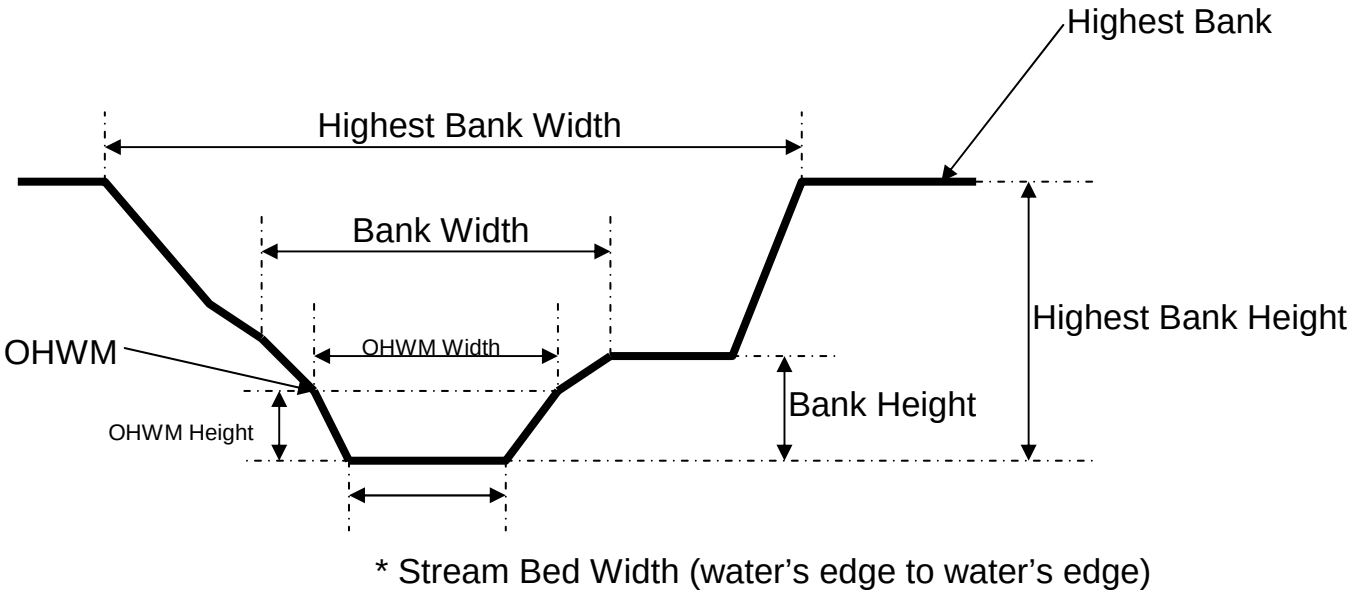
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-007

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/03/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 2.50000000

Width (ft) (bank to bank): 3.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.80000000	Height (ft): 0.80000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoon

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

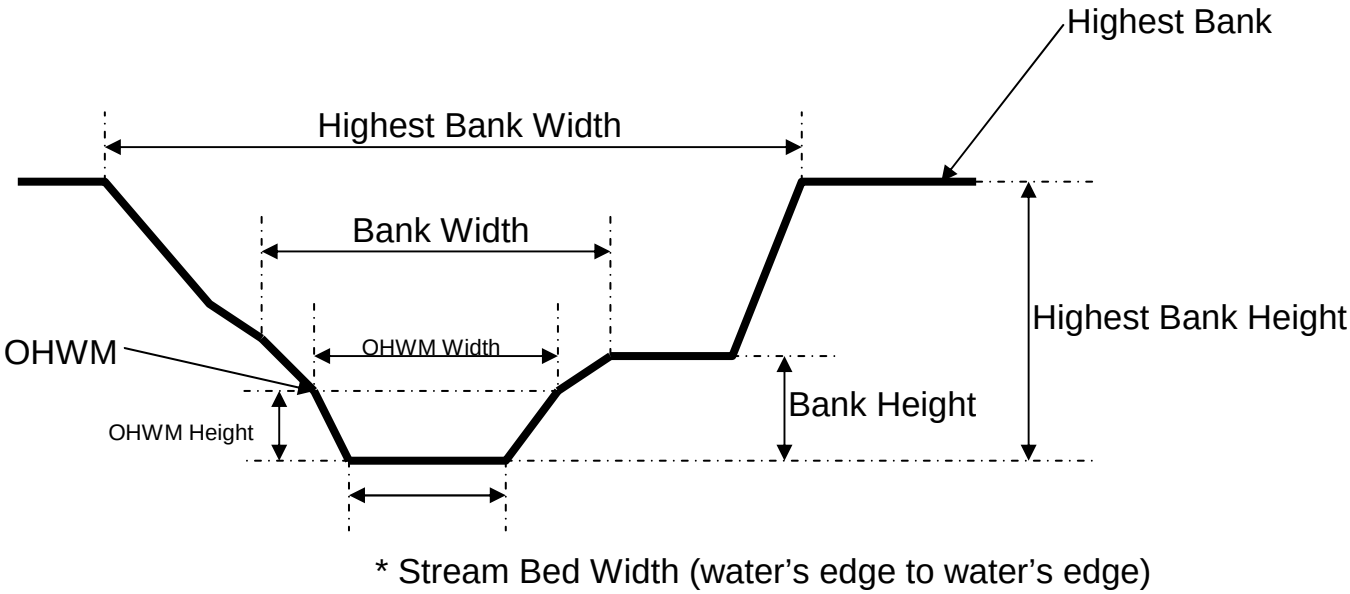
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-008

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/04/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer raccons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

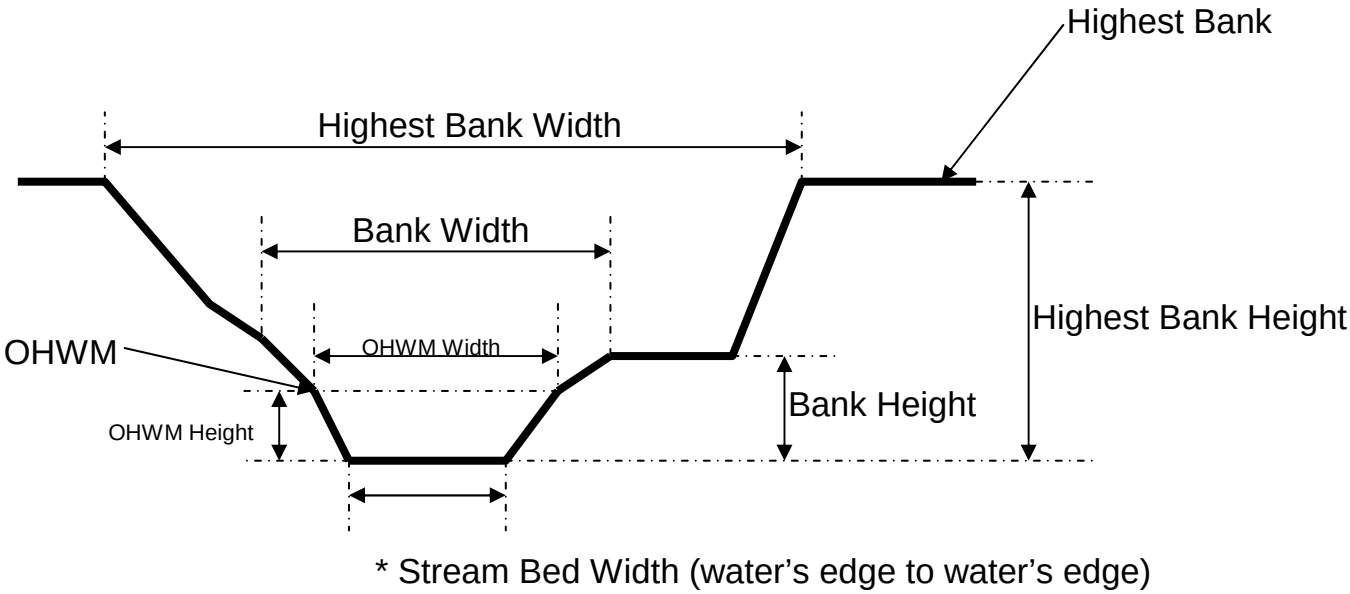
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-009

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/04/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.70000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.70000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.40000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccon

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

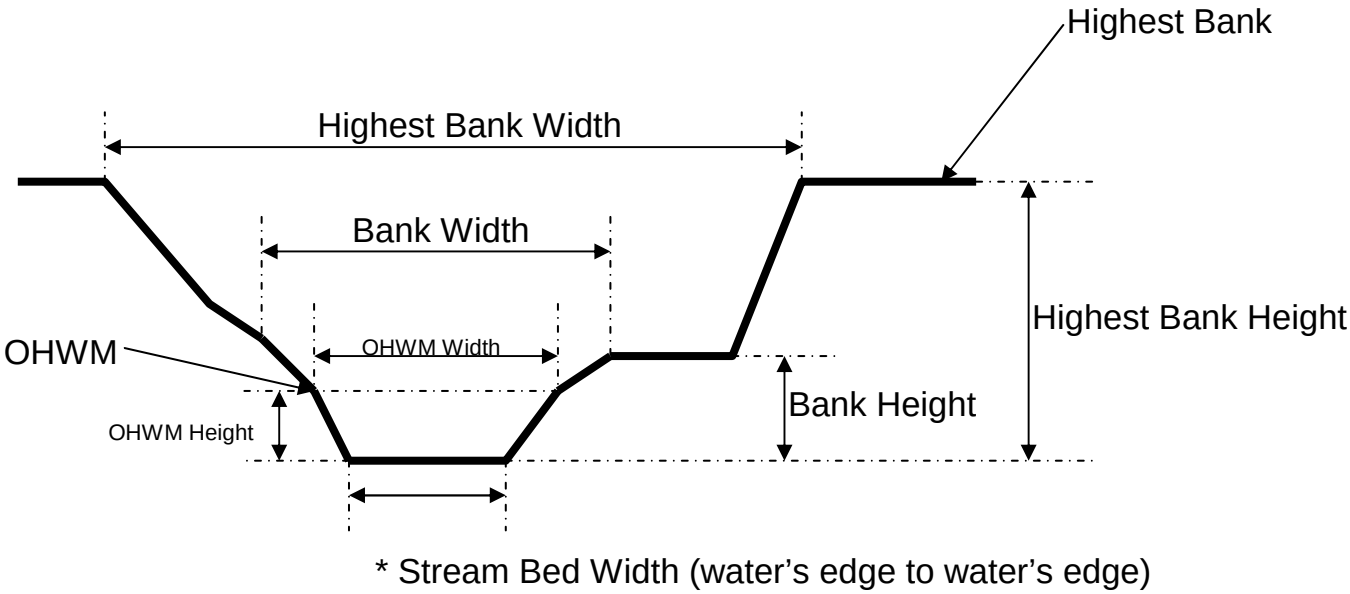
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-010

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/04/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.90000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer raccons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

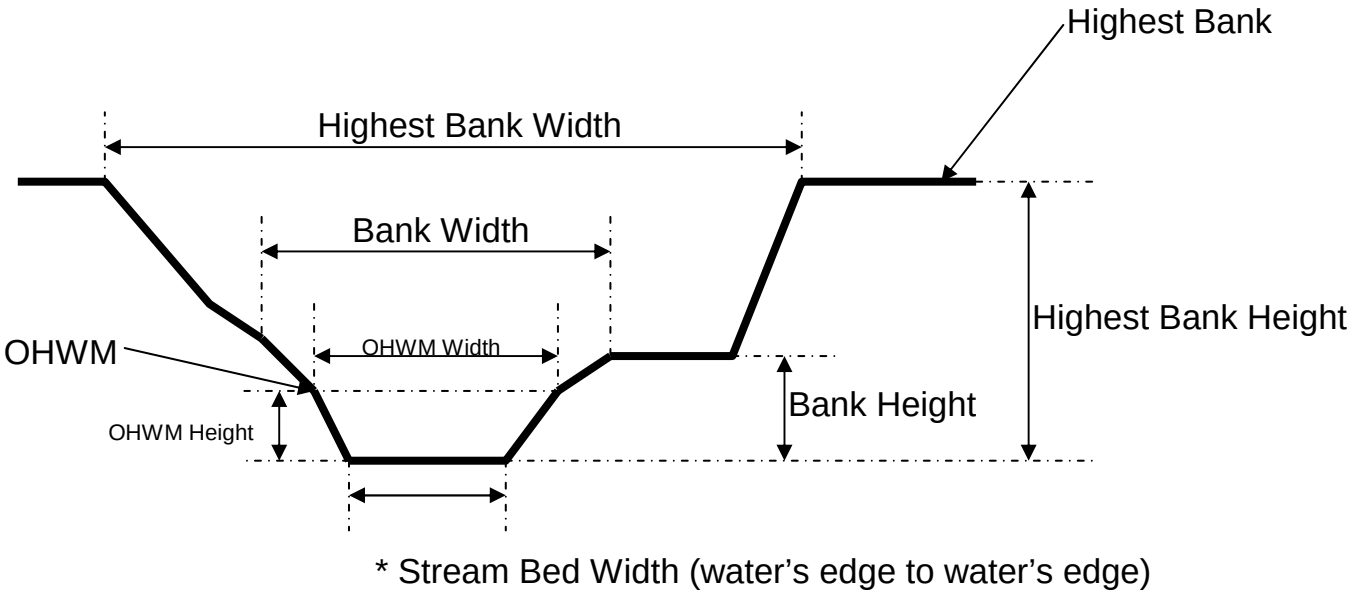
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-016

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:** _____

Date: 02/12/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Casey, Justin, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☐ **Intermittent** ☑ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.90000000	**Height (ft):** 0.80000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.30000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☑ **Other:** highly incised

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*: _____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*: _____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):** _____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ **yes**
☐ **no**
If yes, list:
crayfish

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer and raccoon

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

Discontinuous OHWM: ☑ **yes** ☐ **no**

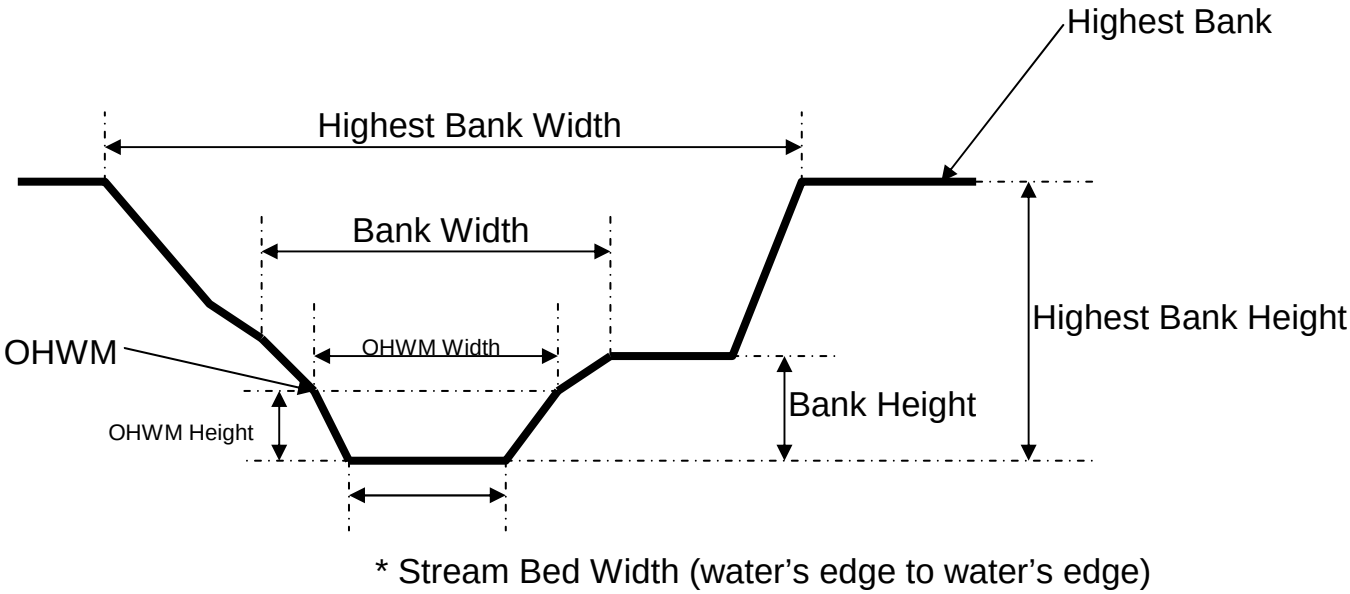
Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:

water present but not flowing



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-017

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/13/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.80000000	Height (ft): 0.80000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

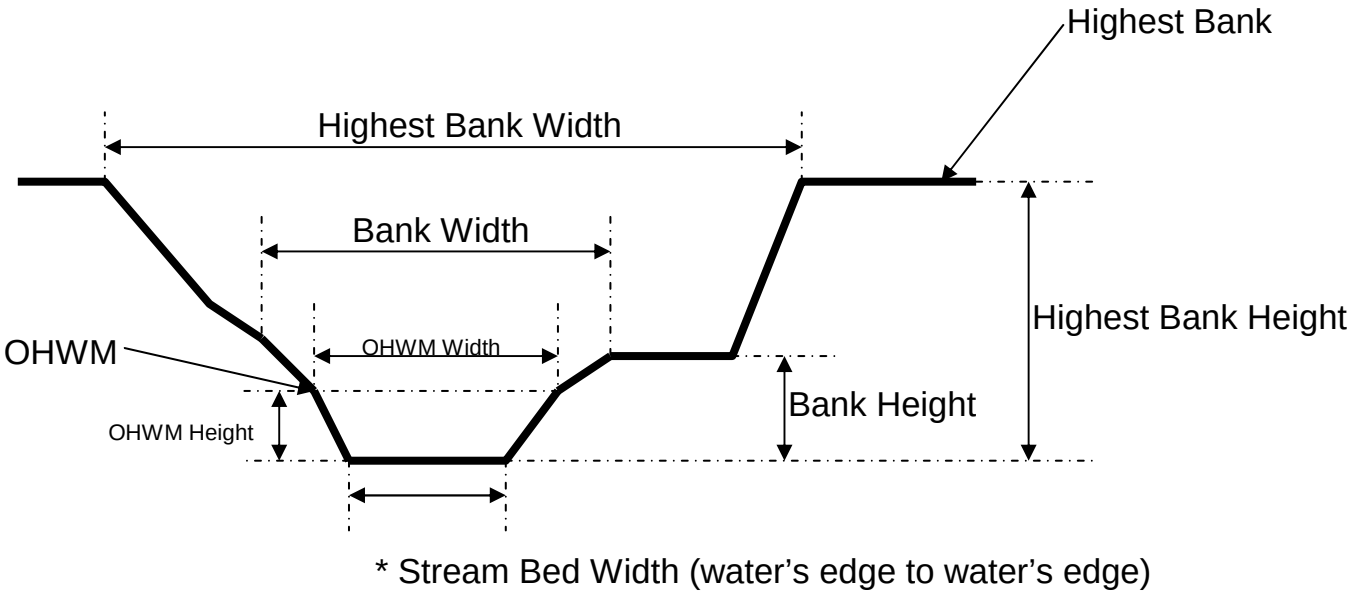
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☐ natural
☐ manmade – Explain:
☑ man-altered – Explain: appears to be drainage ditch in natural drainagewa

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-018

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ **UNNAMED** ☐ **NAMED:** _____

Date: 02/13/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Witherington, Emma, Casey, Justin

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☑ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: ES

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.80000000	**Height (ft):** 0.80000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☑ **Other:** slightly incised

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*: _____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*: _____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):** _____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ **yes**
☐ **no**
If yes, list:
crayfish

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

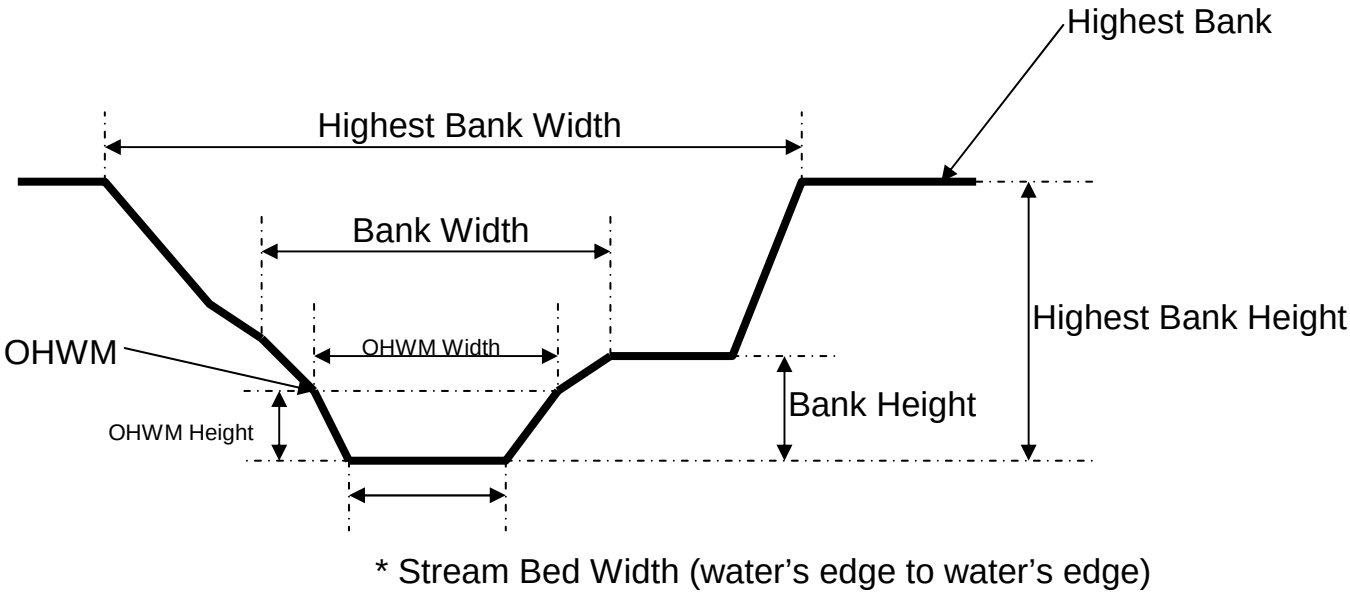
Discontinuous OHWM: ☐ **yes** ☑ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-009

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/11/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 5.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.00000000	Height (ft): 1.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 3.00000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

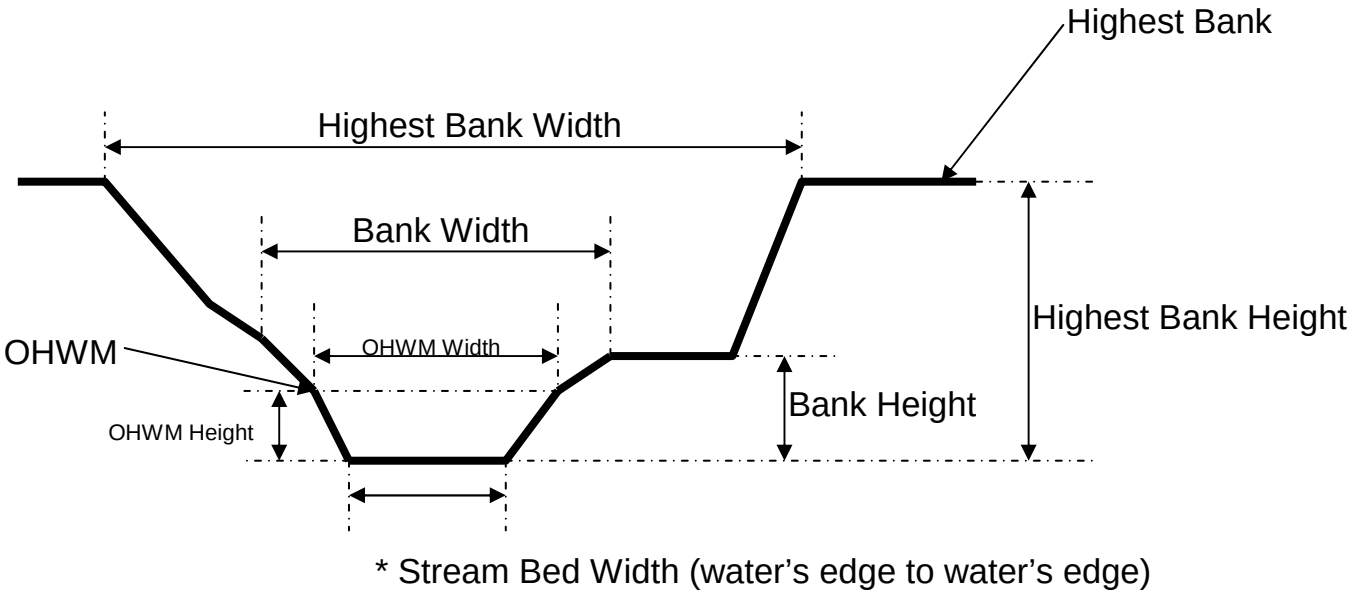
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-010

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/11/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Shultz, Dave, Cheviellet, Brian

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.00000000	Height (ft): 2.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 3.00000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☑ other (list): root balls, decid trees buttressing

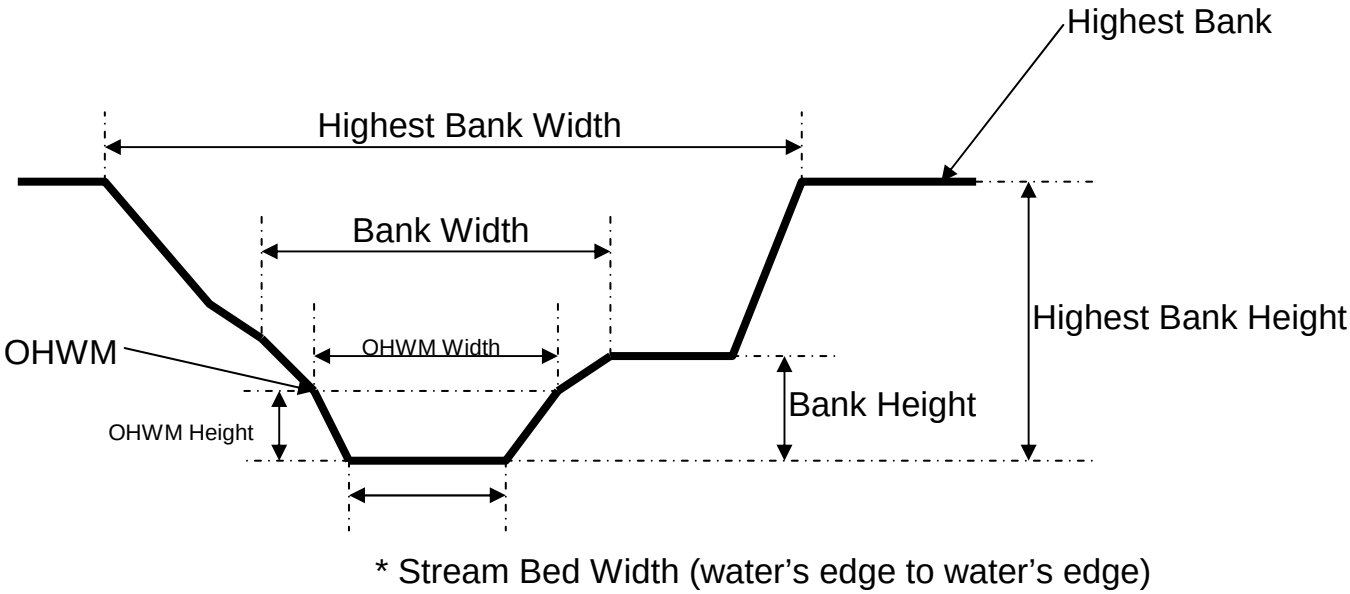
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☑ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-011

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**

Date: 02/11/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Shultz, Dave, Cheviellet, Brian

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 20.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 6.00000000	**Height (ft):** 6.00000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☑ 46-60º (2:1)
☑ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 4.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:**
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☑ other (list): sand islands

Discontinuous OHWM: ☐ **yes** ☑ **no**

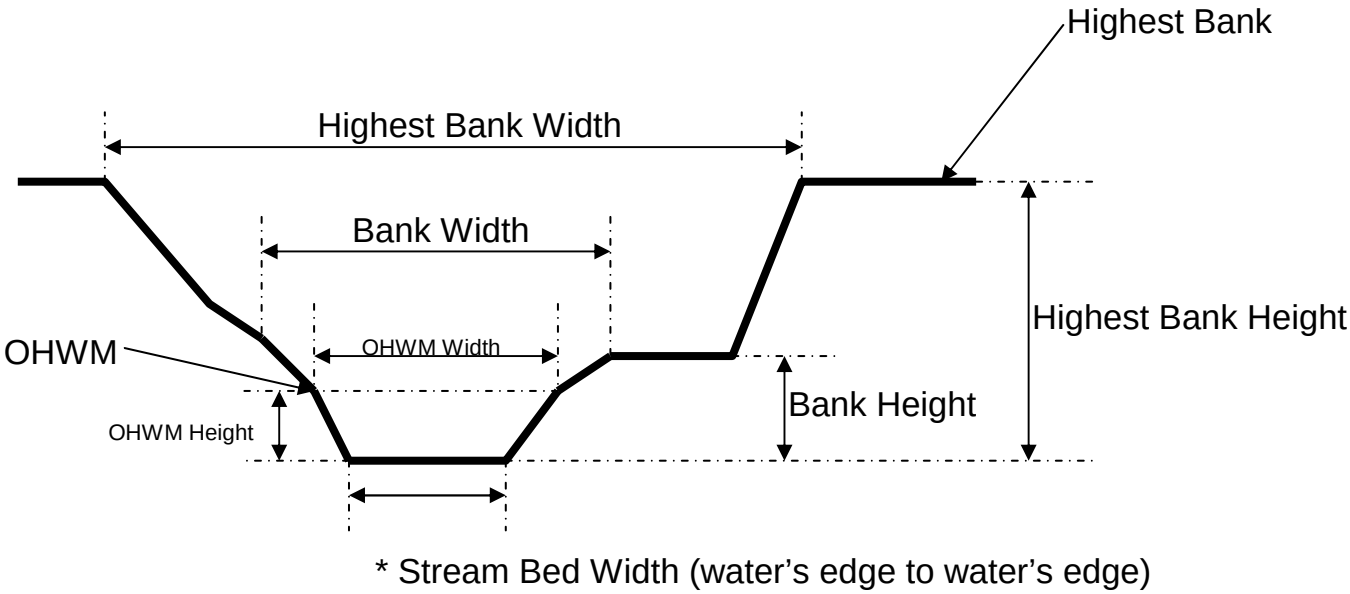
Geometry: ☐ **Meandering** ☑ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☑ **riffles**

Is the stream/tributary:
☐ **natural**
☐ **manmade – Explain:**
☑ **man-altered – Explain:** road to south

NOTES:

h2s, sand islands and bars, signs of beaver damming, root balls, trees buttress



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-012

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/12/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Chivellette, Brian, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 8.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 3.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 3.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

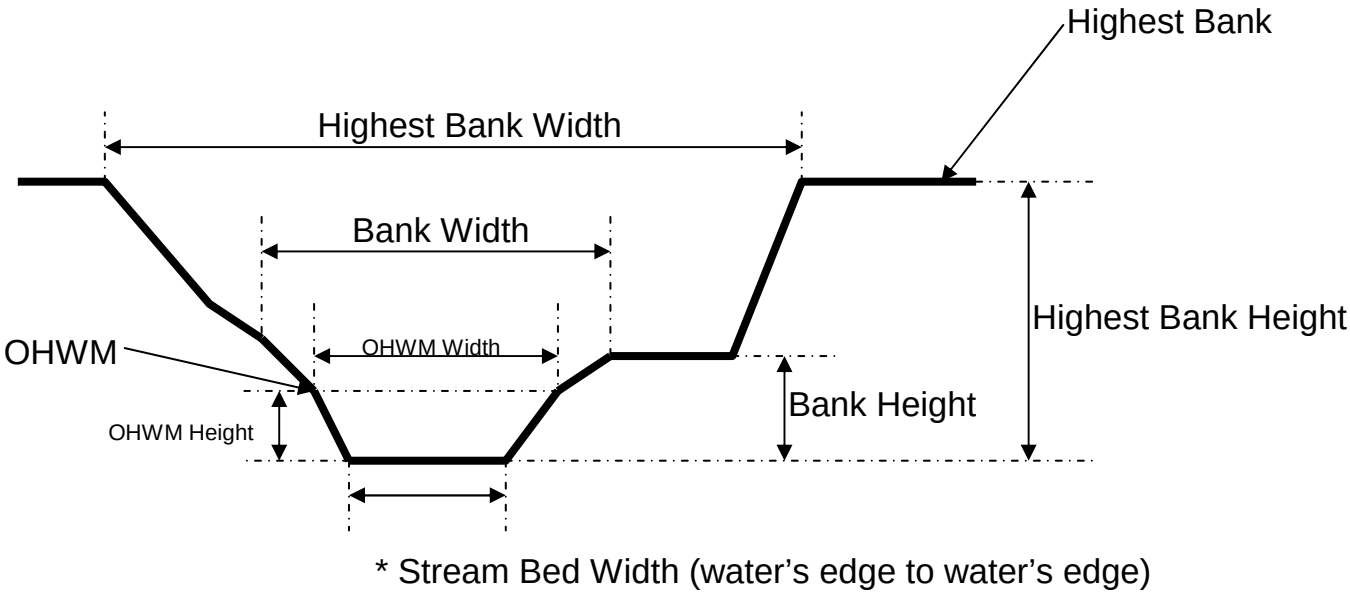
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

moss bottom of channel and banks,rootwads, overhanging understory



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-013

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/11/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☑ Other moss

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 4.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

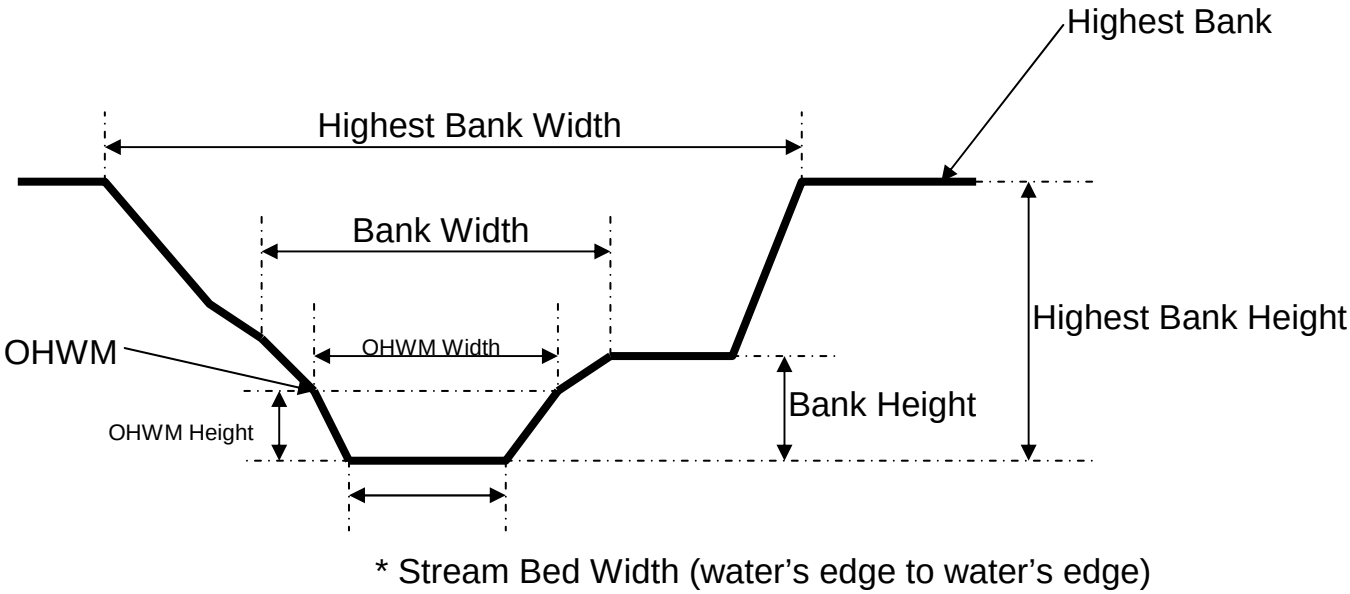
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

cwd in channel, root wads, moss on channel bottom and banks, overhanging und



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-014

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/12/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SS

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 1.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☑ Other vegatated

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 2.00000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

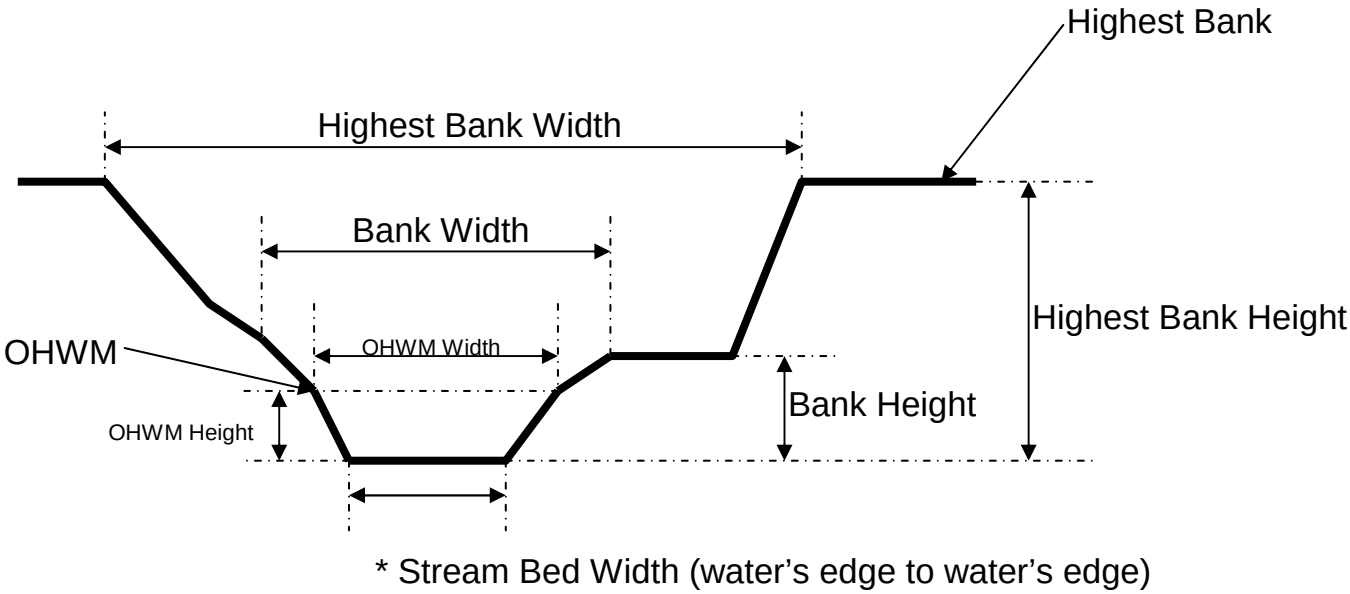
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☑ pools ☑ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

rootwads, veg in channel, mostly litter,cwd, overhanging veg allff



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-15

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/12/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 8.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 3.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

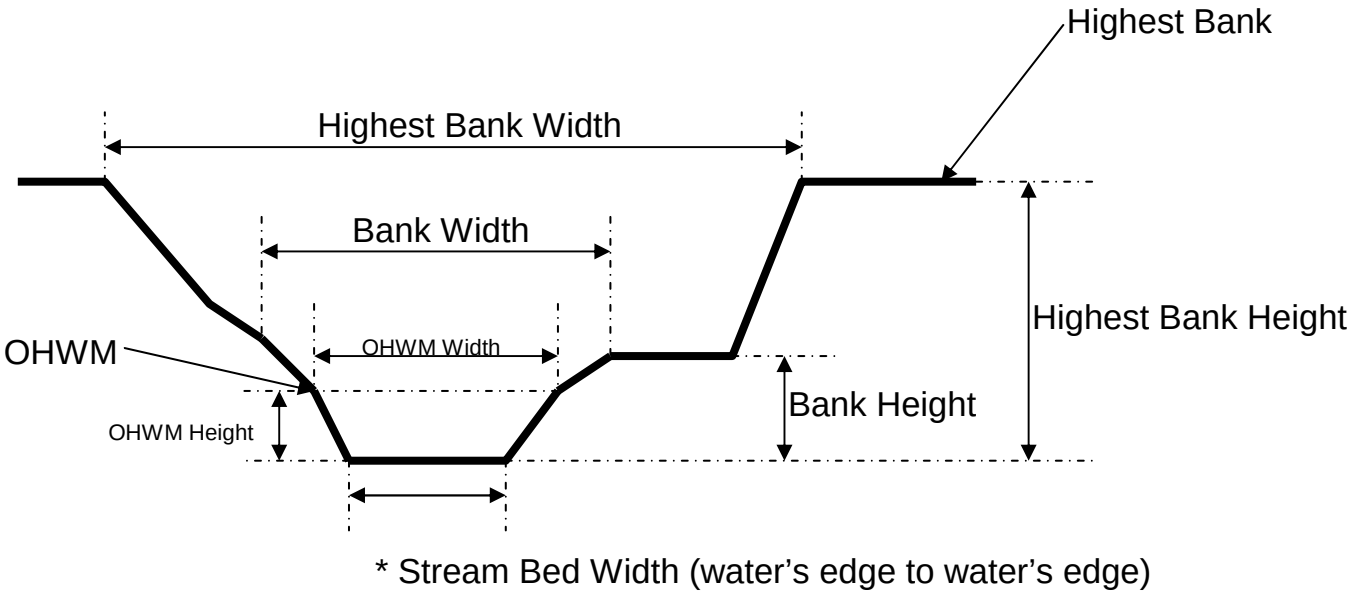
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☑ riffles

Is the stream/tributary:
☐ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

back pooling ,cwd, herb overhang, some rutting from two track.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-016

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** NAS Meridian

County: Lauderdale

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/13/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Chevillet, Brian, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 3.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 2.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

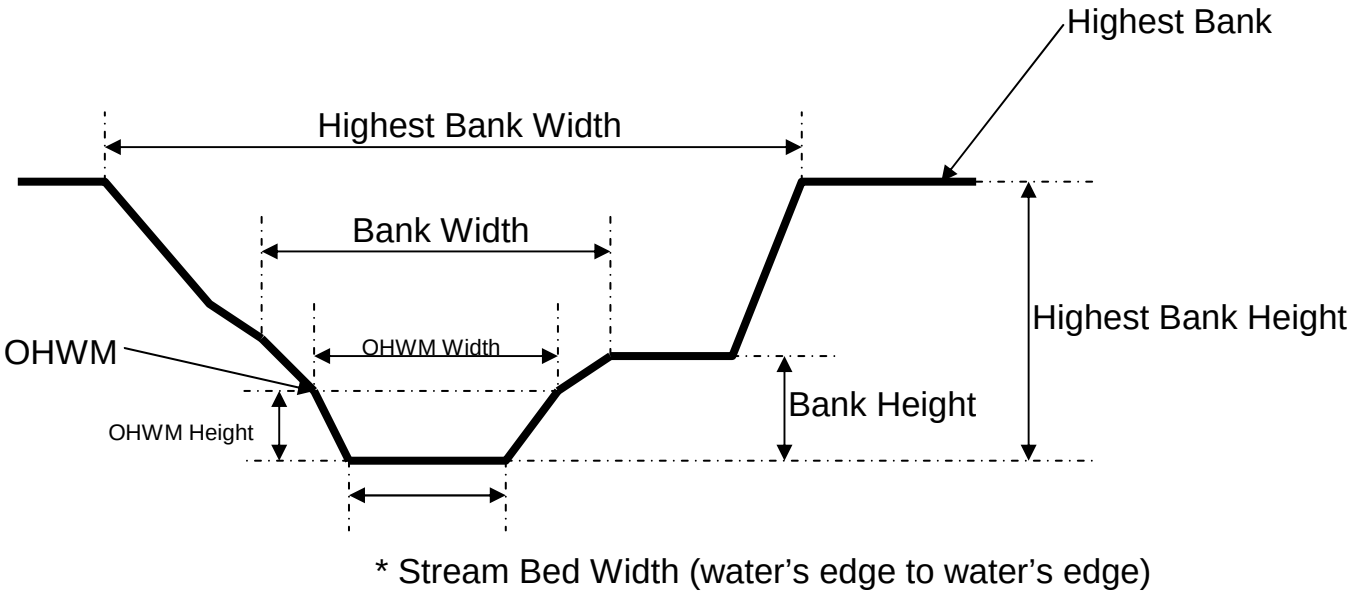
Geometry: ☐ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
- ☐ natural
- ☐ manmade – Explain:
- ☑ man-altered – Explain: existing row

NOTES:

severe storm events, wet season,cwd, veg overhang



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-002

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT Meridian NAS

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/19/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 1.0

Width (ft) (bank to bank): 2.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other none

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.0	Height (ft): 1.0
Slope: ☑ 0-30º (4:1)	Slope: ☑ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.5
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

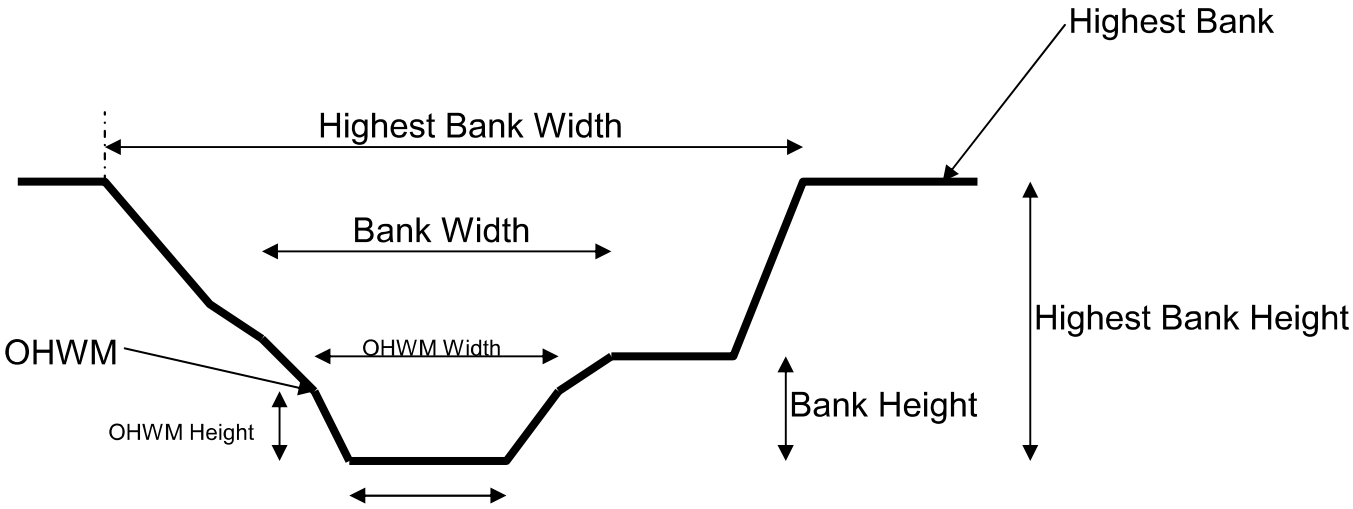
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

starts at edge of mowed area and flows into forest. dissipates in forest.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-003

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT Meridian NAS

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/20/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 5.0

Width (ft) (bank to bank): 7.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other none

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 3.0	Height (ft): 3.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.0
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

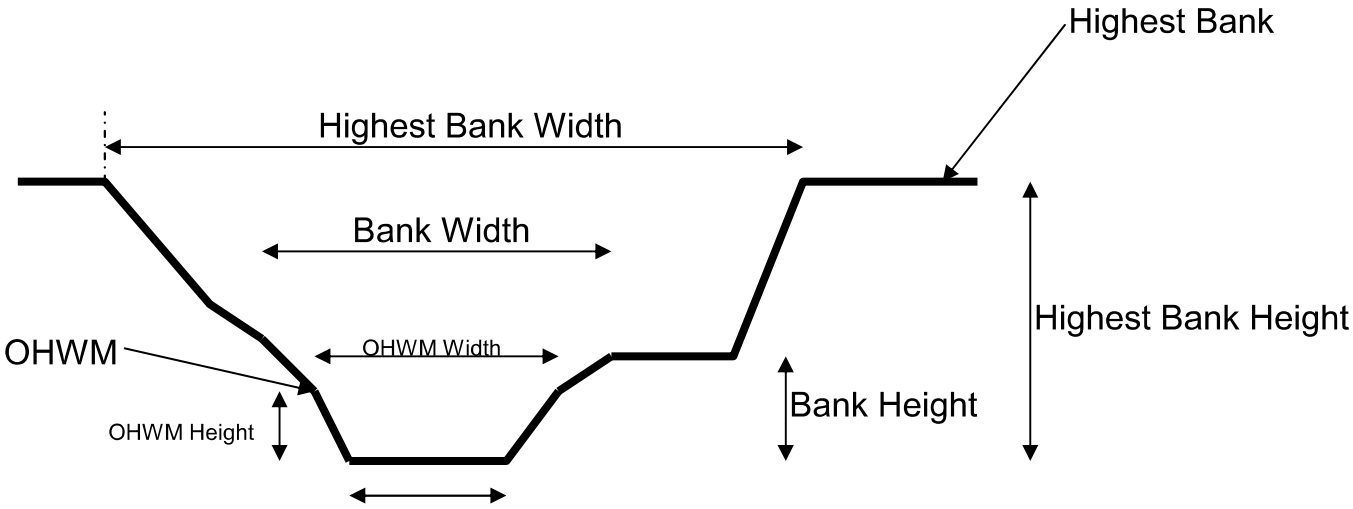
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

flows from upslope to WW-05-003. Dissipates in wetland.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-005

STREAM DATA

☐ ROW ☑ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/21/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: WS

Width (ft) (water's edge to water's edge): 4.0

Width (ft) (bank to bank): 6.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☑ Other pine litter

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 3.0	Height (ft): 3.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☑ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☐ yes ☑ no

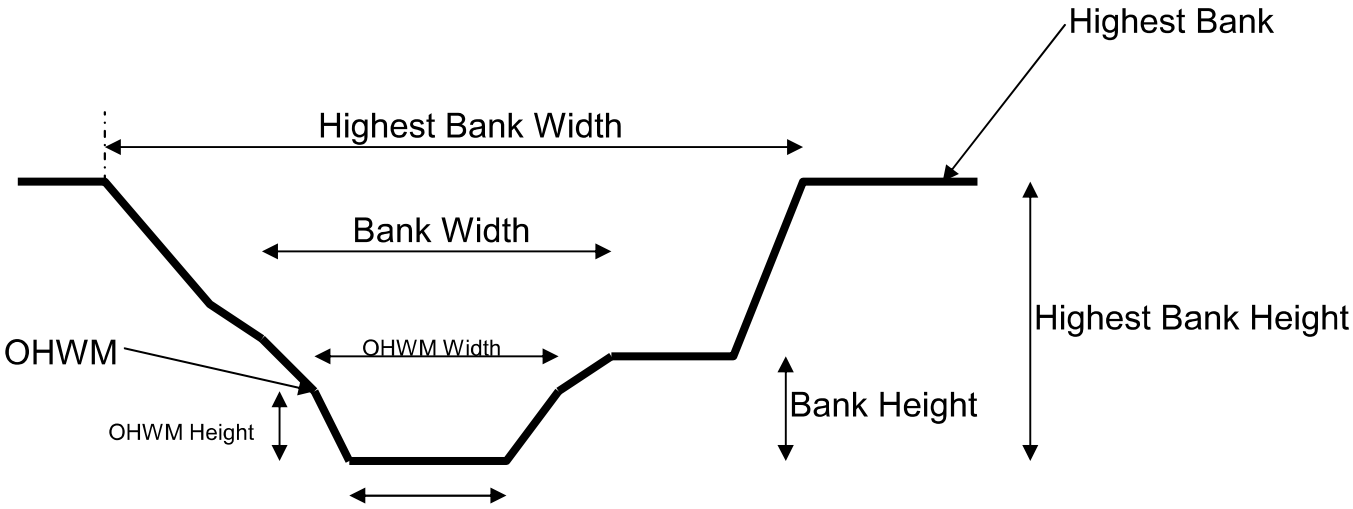
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

Photo up: E Photo down:W across: North. Starts along road, dissipates in forest.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-007

STREAM DATA

☐ ROW ☑ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/21/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 2.0

Width (ft) (bank to bank): 4.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☑ Other leaf litter

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.0	Height (ft): 1.0
Slope: ☑ 0-30º (4:1)	Slope: ☑ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☑ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

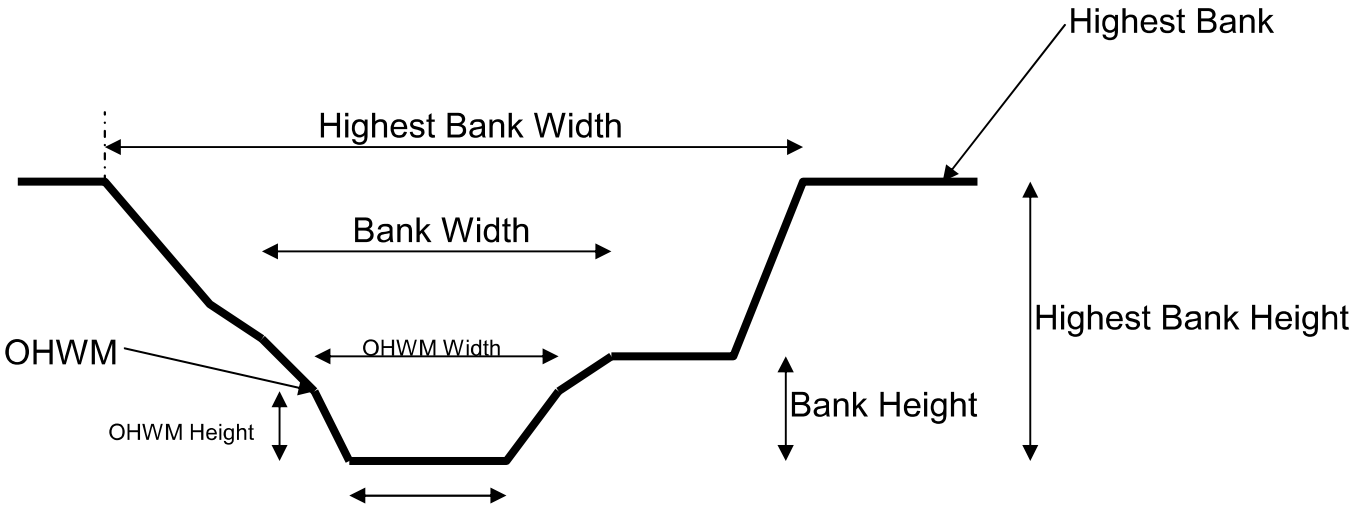
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

flows in wetland, out to drain DD-05-002, under Rabbit Road.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-008

STREAM DATA

☐ ROW ☑ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/21/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.0

Width (ft) (bank to bank): 2.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.0	Height (ft): 1.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.0
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

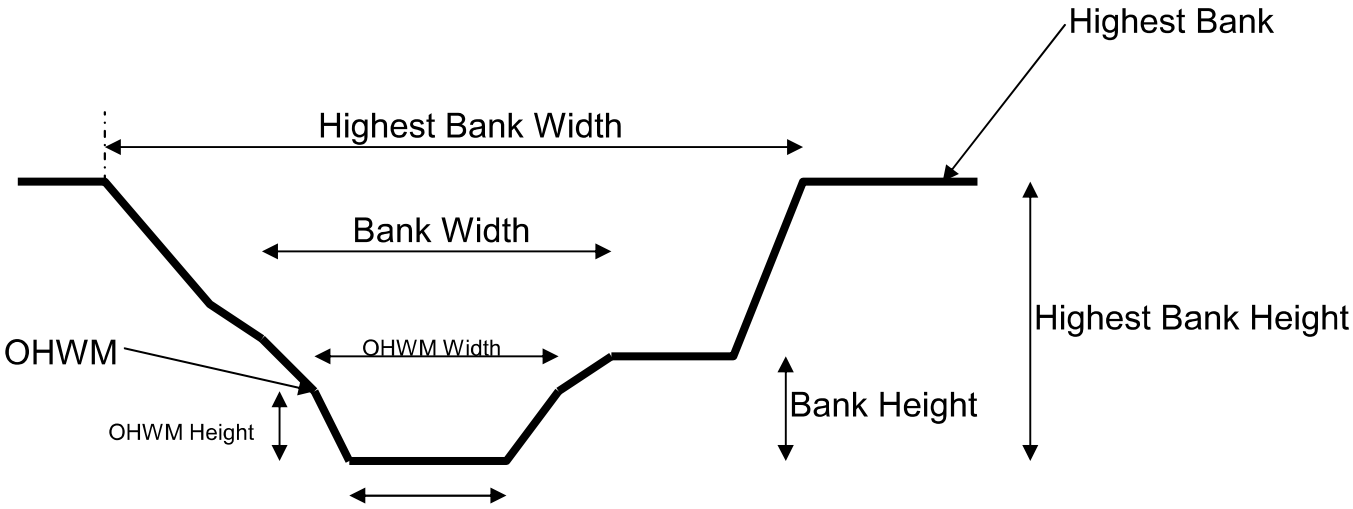
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

photo up: NE photo down: SW, photo across: ESE.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-011

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/22/2015

Stream Type: ☐ STREAM ☑ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.0

Width (ft) (bank to bank): 1.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☑ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.5	Height (ft): 0.5
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

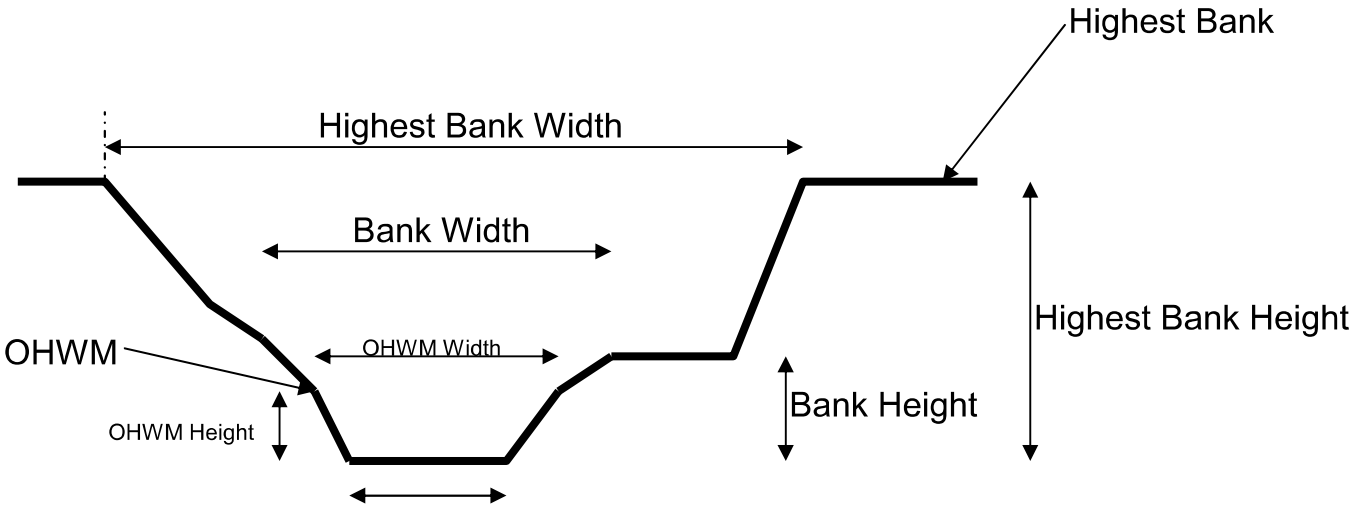
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☐ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

roadside ditch that flows to stream



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-012

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/22/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.5

Width (ft) (bank to bank): 3.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.0	Height (ft): 2.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

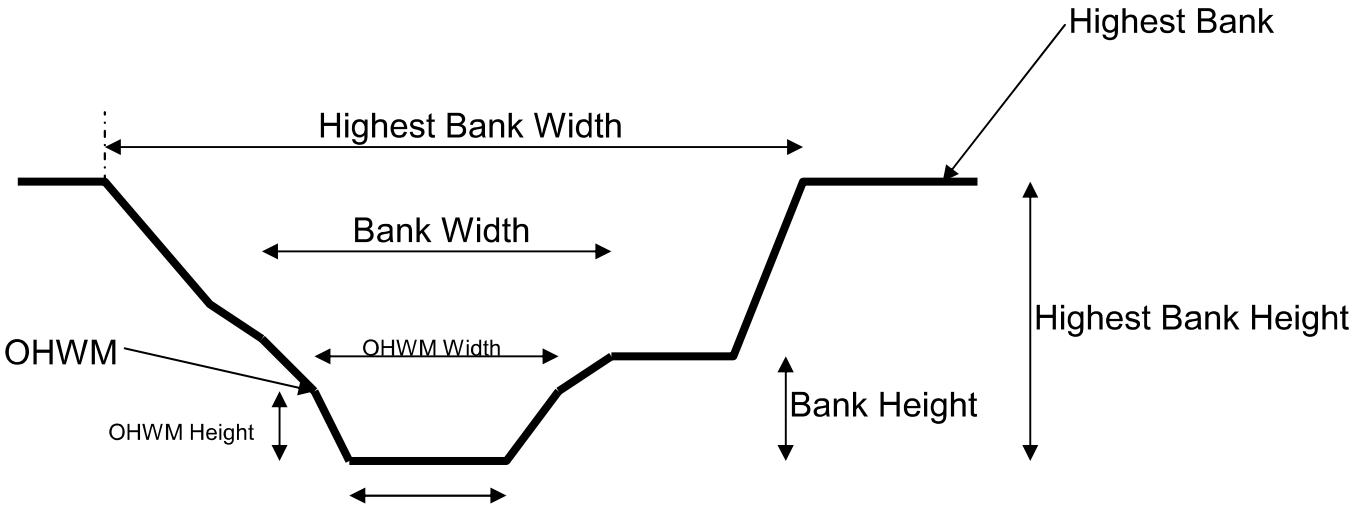
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

in forest



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-013

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT NAS Meridian

County: Lauderdale

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/22/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 3.0

Width (ft) (bank to bank): 9.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 5.0	Height (ft): 5.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

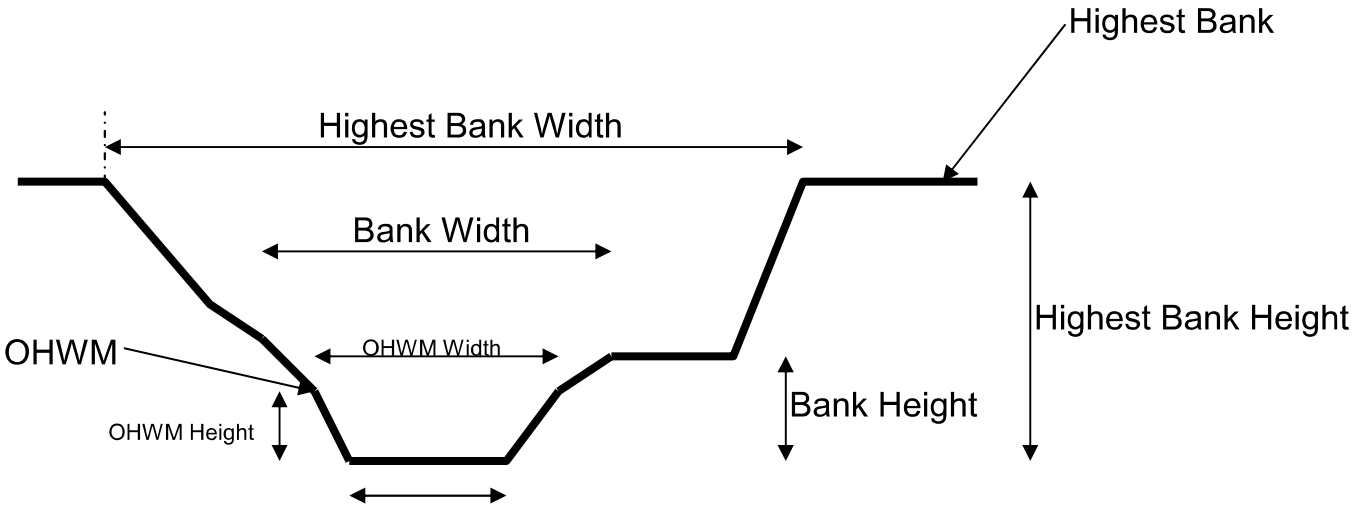
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

in forest along road



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

A-3 NAS Meridian and Potential Transmission Corridor Wetland Photos

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WW-T01-001-W1. Photo taken facing east, showing the wetland soil pit. This is a PFO wetland associated with DD-T01-001 and SS-T01-001.



WW-T01-001-U1. Photo taken facing west, showing the upland soil pit. This is a PFO wetland associated with DD-T01-001 and SS-T01-001.



WW-T01-002-W1. Photo taken facing southeast, showing the wetland soil pit. This PFO is at the toeslope of multiple hills, with standing water in the center, fed via groundwater and drained via SS-T01-001 into WW-T01-001.



WW-T01-002-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-003-W1. Photo taken facing south, showing the wetland soil pit. This PFO wetland is fed via groundwater, precipitation, an dSS-T01-002 and is drained via SS-T01-002. It functions as wildlife habitat (rabbits, songbirds, deer) and flood protection.



WW-T01-003-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-009-W1. Photo taken facing west, showing the wetland soil pit. This PFO wetland is fed via groundwater, and drained via SS-T01-004, SS-T01-004a, and SS-T01-004b. The wetland functions as a wildlife habitat.



WW-T01-009-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T01-010-W1. Photo taken facing northwest, showing the wetland soil pit. This PFO wetland is fed via groundwater and over-land sheet-flow. It is drained via SS-T01-005, and functions as wildlife habitat and as nutrient removal.



WW-T01-010-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T01-010-W2. Photo taken facing northeast, showing the second wetland soil pit for this wetland. This area is on the western side of the wetland, in the planted pines.



WW-T01-010-U2. Photo taken facing southwest, showing the second upland soil pit for this wetland.



WW-T01-011-W1. Photo taken facing southeast, showing the wetland soil pit. This PFO wetland is fed via groundwater, and drained via over-land sheet-flow and drainage across the access road, and into WW-T01-003.



WW-T01-011-U1. Photo taken facing north, showing the upland soil pit.



WW-T01-012-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland is fed via groundwater and over-land sheet-flow. It drains via overland sheet-flow towards WW-T01-011, and functions as a wildlife habitat.



WW-T01-012-U1. Photo taken facing south, showing the upland soil pit.



WW-T01-013-W1. Photo taken facing north, showing the wetland soil pit. This PFO wetland is dominated by Loblolly pine, and has water inflow via groundwater and over-land sheet-flow from the surrounding upland. It functions as flood protection and storm-water removal and has outflow via the drain under Rabbit Road.



WW-T01-013-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T01-023-W1. Photo taken facing southeast, showing the wetland soil pit. This wetland is a depressional PFO, with inflow via over-land sheet-flow, and precipitation. The wetland functions as wildlife habitat.



WW-T01-023-U1. Photo taken facing west, showing the upland soil pit.



WW-T01-024-W1. Photo taken facing north, showing the wetland soil pit. This depressional PFO has inflow via groundwater and over-land sheet-flow, and functions as wildlife habitat.



WW-T01-024-U1. Photo taken facing south, showing the upland soil pit.



WW-T01-025-W1. Photo taken facing east, showing the wetland soil pit. This PFO wetland is in a depressional area along the roadside, fed by SS-T01-010. The wetland functions as storm-water retention, flood protection, and wildlife habitat.



WW-T01-025-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T01-026-W1. Photo taken facing east, showing the wetland soil pit. This is a depressional wetland between the base road and golf cart path. The wetland drains to the southeast, under the golf car road via a culvert. Water inflow is from over-land sheet-flow.



WW-T01-026-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-027-W1. Photo taken facing south, showing the wetland soil pit. This depressional PFO wetland is fed via DD-T01-011, over-land sheet-flow, and groundwater. The wetland is a large area of standing water, and continues off the right-of-way.



WW-T01-027-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T01-028-W1. Photo taken facing southwest, showing the wetland soil pit. This wetland is on a hillslope, dominated by *Acer gigantea* (alfalfa). Water inflow is via over-land sheet-flow, and outflow via over-land sheet-flow and SS-T01-011.



WW-T01-028-W2. Photo taken facing southeast, showing the second wetland soil pit for this wetland. A second pit was made due to changed characteristics in vegetation cover.



WW-T01-028-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T02-006-W1. Photo taken facing southeast, showing the wetland soil pit. The wetland is a depression (potentially created by the road to the south) with majority PSS containing sweet gum and willow oak and a small area of PEM.



WW-T02-006-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T02-007-W1. Photo taken facing southeast, showing the wetland soil pit. This wetland is a depressional PFO near the back gate. It is dominated by loblolly pine, willow oak, water oak, sweet gum, and red maple.



WW-T02-007-U1. Photo taken facing northwest, showing the upland soil pit. The upland dominated by mature loblolly pine and with low density undergrowth.



WW-T02-008-W1. Photo taken facing east-northeast, showing the wetland soil pit. This wetland is a hardwood depression PFO dominated by cherry bark oak and willow oak.



WW-T02-008-U1. Photo taken facing southwest, showing the upland soil pit. Dominant vegetation is mature upland pine with a sparse understory.



WW-T02-010-W1. Photo taken facing east, showing the wetland soil pit. This wetland is a large bottomland PFO. The line is a portion of the western edge as the wetland extends off the property.



WW-T02-010-U1. Photo taken facing west, showing the upland soil pit.



WW-T02-011-W1. Photo taken facing southwest, showing the wetland soil pit.



WW-T02-011-U1. Photo taken facing east, showing the upland soil pit.



WW-T02-019-W1. Photo taken facing northwest, showing the wetland soil pit.



WW-T02-019-U1. Photo taken facing north-northwest, showing the upland soil pit.



WW-T02-020-W1. Photo taken facing south, showing the wetland soil pit. This wetland is the narrow floodplain of SS-T02-017.



WW-T02-020-U1. Photo taken facing west, showing the upland soil pit.



WW-T02-021-W1. Photo taken facing southwest, showing the wetland soil pit. This PFO wetland is a beaver pond/swamp, with PSS toward the middle.



WW-T02-021-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T02-021A-W1. Photo taken facing north, showing the wetland soil pit.



WW-T02-021A-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T03-009-W1. Photo taken facing north, showing the wetland soil pit. This wetland is a PFO next to Fuller Road, and, SS-T03-016 drains into it from the north.



WW-T03-009-U1. Photo taken facing south, showing the upland soil pit.



WW-T05-001-W1. Photo taken facing southeast, showing the wetland soil pit.



WW-T05-001-U1. Photo taken facing north, showing the upland soil pit.



WW-T05-002-W1. Photo taken facing east, showing the wetland soil pit.



WW-T05-002-U1. Photo taken facing west, showing the upland soil pit.



WW-T05-005-W1. Photo taken facing southwest, showing the wetland soil pit.



WW-T05-005-U1. Photo taken facing west, showing the upland soil pit.



WW-T05-008-W1. Photo taken facing north, showing the wetland soil pit.



WW-T05-008-U1. Photo taken facing south, showing the upland soil pit.



WW-T05-009-W1. Photo taken facing northwest, showing the wetland soil pit.



WW-T05-009-U1. Photo taken facing southeast, showing the upland soil pit.

A-4 NAS Meridian and Potential Transmission Corridor Stream Photos

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SS-T01-001. Photo taken facing north, showing upstream. This perennial stream flows south into WW-T01-001.



SS-T01-001. Photo taken facing south, showing downstream. This perennial stream flows south into WW-T01-001.



SS-T01-001. Photo taken facing southeast, showing right bank to left bank. This perennial stream flows south into WW-T01-001.



SS-T01-004. Photo taken facing south, showing downstream. This stream is an intermittent, flowing south through wetlands.



SS-T01-004. Photo taken facing northeast, showing upstream. This stream is an intermittent, flowing south through wetlands.



SS-T01-004. Photo taken facing east, showing right bank to left bank. This stream is an intermittent, flowing south through wetlands.



SS-T01-004B. Photo taken facing southeast, showing downstream. This stream is an intermittent channel flowing south into SS-T01-004, with the same characteristics.



SS-T01-004B. Photo taken facing northeast, showing upstream. This stream is an intermittent channel flowing south into SS-T01-004, with the same characteristics.



SS-T01-004B. Photo taken facing north, showing right bank to left bank. This stream is an intermittent channel flowing south into SS-T01-004, with the same characteristics.



SS-T01-005. Photo taken facing west, showing upstream of perennial stream.



SS-T01-005. Photo taken facing east, showing downstream of perennial stream.



SS-T01-005. Photo taken facing south, showing left to right bank of perennial stream.



SS-T01-005. A second datasheet was made for this stream. Photo taken facing southwest, showing downstream, where the stream becomes approximately 13 ft wide with multiple tributaries.



SS-T01-005. A second datasheet was made for this stream. Photo taken facing north, and showing upstream where the stream becomes approximately 13 ft wide with multiple tributaries.



SS-T01-005. Photo taken for the second datasheet for this stream, facing west, and showing left bank to right bank.



SS-T01-005A. Photo taken facing west, showing downstream. This stream is perennial, flowing west into SS-T01-005.



SS-T01-005A. Photo taken facing east, showing upstream. This stream is perennial, flowing west into SS-T01-005.



SS-T01-005A. Photo taken facing north, showing left bank to right bank. This stream is perennial, flowing west into SS-T01-005.



SS-T01-005B. Photo taken facing southwest, showing downstream. This stream is intermittent, flowing southwest into SS-T01-005.



SS-T01-005B. Photo taken facing northeast, showing upstream. This stream is intermittent, flowing southwest into SS-T01-005.



SS-T01-005B. Photo taken facing east, showing right bank to left bank. This stream is intermittent, flowing southwest into SS-T01-005.



SS-T01-005C. Photo taken facing south, showing downstream. This stream is intermittent, flowing south into SS-T01-005.



SS-T01-005C. Photo taken facing north, showing upstream. This stream is intermittent, flowing south into SS-T01-005.



SS-T01-005C. Photo taken facing east, showing right bank to left bank. This stream is intermittent, flowing south into SS-T01-005.



SS-T01-005D. Photo taken facing south, showing downstream. This stream switches back and forth from an ephemeral stream with bed and bank, to a drain, and becomes only a drain at flag 10.



SS-T01-005D. Photo taken facing north, showing upstream. This stream switches back and forth from an ephemeral stream with bed and bank, to a drain, and becomes only a drain at flag 10.



SS-T01-005D. Photo taken facing northeast, showing right bank to left bank. This stream switches back and forth from an ephemeral stream with bed and bank, to a drain, and becomes only a drain at flag 10.



SS-T01-006. Photo taken facing south, showing downstream. This stream is intermittent, flowing south into WW-T01-010.



SS-T01-006. Photo taken facing north, showing upstream. This stream is intermittent, flowing south into WW-T01-010.



SS-T01-006. Photo taken facing southwest, showing left bank to right bank. This stream is intermittent, flowing south into WW-T01-010.



SS-T01-007. Photo taken facing south, showing upstream. This is a man-made ephemeral ditch running north.



SS-T01-007. Photo taken facing north, showing downstream. This is a man-made ephemeral ditch running north.



SS-T01-007. Photo taken facing east, showing left bank to right bank. This is a man-made ephemeral ditch running north.



SS-T01-010. Photo taken facing east, showing downstream. This is a perennial stream, flowing southeast, starting at DD-T01-008, and flows along the road side, feeding into WW-T01-025.



SS-T01-010. Photo taken facing west, showing upstream. This is a perennial stream, flowing southeast, starting at DD-T01-008, and flows along the road side, feeding into WW-T01-025.



SS-T01-010. Photo taken facing north, showing right bank to left bank. This is a perennial stream, flowing southeast, starting at DD-T01-008, and flows along the road side, feeding into WW-T01-025.



SS-T01-011. Photo taken facing south-southeast, showing downstream. This is a perennial stream, flowing south-southeast and draining into WW-T01-028.



SS-T01-011. Photo taken facing north-northwest, showing upstream. This is a perennial stream, flowing south-southeast and draining into WW-T01-028.



SS-T01-011. Photo taken facing east, showing right bank to left bank. This is a perennial stream, flowing south-southeast and draining into WW-T01-028.



SS-T01-012. Photo taken facing southeast, showing downstream. This is a perennial stream, flowing southeast across the right-of-way. It is a deeply incised channel.



SS-T01-012. Photo taken facing northeast, showing upstream. This is a perennial stream, flowing southeast across the right-of-way. It is a deeply incised channel.



SS-T01-012. Photo taken facing east, showing right bank to left bank. This is a perennial stream, flowing southeast across the right-of-way. It is a deeply incised channel.



SS-T01-012A. Photo taken facing west, showing upstream. This is a perennial stream flowing east into SS-T01-012A and ending at a beaver dam.



SS-T01-012A. Photo taken facing east, showing downstream. This is a perennial stream flowing east into SS-T01-012A and ending at a beaver dam.



SS-T01-012A. Photo taken facing north, showing right bank to left bank. This is a perennial stream flowing east into SS-T01-012A and ending at a beaver dam.



SS-T02-003. Photo taken facing northeast, showing upstream.



SS-T02-003. Photo taken facing southwest, showing downstream.



SS-T02-003. Photo taken facing southeast, showing right bank to left bank.



SS-T02-004. Photo taken facing north, showing upstream.



SS-T02-004. Photo taken facing south, showing downstream.



SS-T02-004. Photo taken facing east, showing right bank to left bank.



SS-T02-005. Photo taken facing northeast, showing upstream. This stream loses bed and bank when it intersects with the large floodplain to the west.



SS-T02-005. Photo taken facing northwest, showing downstream. This stream loses bed and bank when it intersects with the large floodplain to the west.



SS-T02-005. Photo taken facing north, showing left bank to right bank. This stream loses bed and bank when it intersects with the large floodplain to the west.



SS-T02-006. Photo taken facing southeast, showing downstream. This is an intermittent stream, with the main water body in the floodplain.



SS-T02-006. Photo taken facing northwest, showing upstream. This is an intermittent stream, with the main water body in the floodplain.



SS-T02-006. Photo taken facing northeast, showing right bank to left bank. This is an intermittent stream, with the main water body in the floodplain.



SS-T02-007. Photo taken facing east, showing downstream. This stream flows onto project area boundary, is small and relatively straight, and ephemeral.



SS-T02-007. Photo taken facing west, showing upstream. This stream flows onto project area boundary, is small and relatively straight, and ephemeral.



SS-T02-007. Photo taken facing north, showing right bank to left bank. This stream flows onto project area boundary, is small and relatively straight, and ephemeral.



SS-T02-008. Photo taken facing northwest, showing upstream. This is the western ephemeral tributary that joins with another ephemeral tributary to form SS-T02-006.



SS-T02-008. Photo taken facing southeast, showing downstream. This is the western ephemeral tributary that joins with another ephemeral tributary to form SS-T02-006.



SS-T02-008. Photo taken facing northeast, showing right bank to left bank. This is the western ephemeral tributary that joins with another ephemeral tributary to form SS-T02-006.



SS-T02-009. Photo taken facing northeast, showing upstream water ponded by leaf debris/deposits. This stream is ditch-like, relatively straight, with two nearby small ponds with related spoil piles and a set of ruts the size of two trucks.



SS-T02-009. Photo taken facing south, showing downstream. This stream is ditch-like, relatively straight, with two nearby small ponds with related spoil piles and a set of ruts the size of two trucks.



SS-T02-009. Photo taken facing east, showing right bank to left bank. This stream is ditch-like, relatively straight, with two nearby small ponds with related spoil piles and a set of ruts the size of two trucks.



SS-T02-016. Photo taken facing south, showing downstream. This stream has an eroded gully, with no bed and bank above the gully headcut.



SS-T02-016. Photo taken facing north, showing upstream. This stream has an eroded gully, with no bed and bank above the gully headcut.



SS-T02-016. Photo taken facing east, showing right bank to left bank. This stream has an eroded gully, with no bed and bank above the gully headcut.



SS-T02-017. Photo taken facing south, showing downstream. This stream appears to be a ditch, with inconsistent bed and bank.



SS-T02-017. Photo taken facing north, showing upstream. This stream appears to be a ditch, with inconsistent bed and bank.



SS-T02-017. Photo taken facing west, showing left bank to right bank. This stream appears to be a ditch, with inconsistent bed and bank.



SS-T02-018. Photo taken facing east-southeast, showing downstream. This stream starts on Ponta Creek Golf Course, then flows into WW-T02-021.



SS-T02-018. Photo taken facing southwest, showing upstream. This stream starts on Ponta Creek Golf Course, then flows into WW-T02-021.



SS-T02-018. Photo taken facing east, showing left bank to right bank. This stream starts on Ponta Creek Golf Course, then flows into WW-T02-021.



SS-T03-009. Photo taken facing northwest, showing upstream.



SS-T03-009. Photo taken facing west, showing downstream



SS-T03-009. Photo taken facing north, showing left bank to right bank.



SS-T03-010. Photo taken facing north, showing upstream.



SS-T03-010. Photo taken facing southwest, showing downstream.



SS-T03-010. Photo taken facing north, showing left bank to right bank.



SS-T03-011. Photo taken facing west, showing upstream.



SS-T03-011. Photo taken facing east, showing downstream.



SS-T03-011. Photo taken facing north, showing left bank to right bank.



SS-T03-012. Photo taken facing north, showing upstream, by the SS-T03-013 connection point.



SS-T03-013. Photo taken facing south, showing downstream.



SS-T03-013. Photo taken facing east, showing left bank to right bank.



SS-T03-013. Photo taken facing northwest, showing upstream.



SS-T03-013. Photo taken facing southeast, showing downstream.



SS-T03-013. Photo taken facing east, showing left bank to right bank.



SS-T03-014. Photo taken facing northwest, showing upstream.



SS-T03-014. Photo taken facing south-southeast, showing downstream.



SS-T03-014. Photo taken facing east, showing left bank to right bank.



SS-T03-015. Photo taken facing west, showing upstream.



SS-T03-015. Photo taken facing east, showing downstream.



SS-T03-015. Photo taken facing north, showing left bank to right bank.



SS-T03-016. Photo taken facing north, showing upstream.



SS-T03-016. Photo taken facing south, showing downstream.



SS-T03-016. Photo taken facing west, showing left bank to right bank.



SS-T05-002. Photo taken facing northeast, showing upstream.



SS-T05-002. Photo taken facing southwest, showing downstream.



SS-T05-002. Photo taken facing northwest, showing left bank to right bank.



SS-T05-003. Photo taken facing southeast, showing upstream.



SS-T05-003. Photo taken facing northwest, showing downstream.



SS-T05-003. Photo taken facing northeast, showing left bank to right bank.



SS-T05-005. Photo taken facing east, showing upstream.



SS-T05-005. Photo taken facing west, showing downstream.



SS-T05-005. Photo taken facing north, showing left bank to right bank.



SS-T05-007. Photo taken facing northwest, showing upstream.



SS-T05-007. Photo taken facing southeast, showing downstream.



SS-T05-007. Photo taken facing northwest, showing left bank to right bank.



SS-T05-008. Photo taken facing northeast, showing upstream.



SS-T05-008. Photo taken facing southwest, showing downstream.



SS-T05-008. Photo taken facing southeast, showing left bank to right bank.



SS-T05-012. Photo taken facing northeast, showing upstream.



SS-T05-012. Photo taken facing south, showing downstream.



SS-T05-012. Photo taken facing southeast, showing right bank to left bank.



SS-T05-013. Photo taken facing northeast, showing upstream.



SS-T05-013. Photo taken facing southwest, showing downstream.



SS-T05-013. Photo taken facing southeast, right bank to left bank.



SS-T05-011. Photo taken facing north, showing upstream.



SS-T05-011. Photo taken facing south, showing downstream.



SS-T05-011. Photo taken facing west, showing left bank to right bank.

B NOLF Joe Williams Supporting Documents

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B-1 NOLF Joe Williams Wetland Datasheets

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WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-004-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): Convex Slope (%): 15

Subregion (LRR or MLRA): _____ Lat: 32.7864 Long: -88.8276 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-004-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Quercus stellat	5	N	UPL
3. Quercus nigra	5	N	FAC
4. Quercus falcata	5	N	FACU
5.			
6.			
	55	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus pagoda	5	Y	FACW
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	60	x 3 =	180
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	75 (A)		235 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-004-U1

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
0-4	7.5YR,3,1	100	,,	-1			Silty Clay Loam	
4-12	10YR,4,2	99	10YR,5,8	1	C	M	Fine Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-004-W1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): Lat: 32.7864 Long: -88.8276 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 8

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-004-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus pagoda	30	Y	FACW
2. Quercus nigra	10	Y	FAC
3. Pinus taeda	10	N	FAC
4.			
5.			
6.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Glyceria canade	5	Y	OBL
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	5	x 1 =	5
FACW species	30	x 2 =	60
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	60 (A)		140 (B)

Prevalence Index = B/A = 2.33

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-004-W1

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
0-2	10YR,4,2	100	,,	-1			Sandy Clay Loam	
2-14	2.5Y,5,2	60	7.5YR,4,6	10	C	M	Fine Sandy Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-005-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Base Slope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7841 Long: -88.8258 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-005-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus pagoda	35	Y	FACW
2. Acer negundo	15	Y	FAC
3.			
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	60	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	60 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	35	x 2 =	70
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		340 (B)

Prevalence Index = B/A = 2.72

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-005-U1

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
0-4	10YR,2,2	100	,,	-1			Loam	
4-12	2.5Y,5,3	92	10YR,5,8	8	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-005-W1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.784 Long: -88.8258 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 1

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-005-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus bicolor	35	Y	FACW
2. Acer negundo	20	Y	FAC
3.			
4.			
5.			
6.			
	55 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		310 (B)

Prevalence Index = B/A = 2.7

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-005-W1

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
0-1	10YR,3,2	100	,,	-1			Sandy Loam	
1-14	2.5Y,5,2	80	10YR,5,8	20	C	M	Clay Loam	

[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)**
- ___ 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** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-006-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Base Slope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.784 Long: -88.8275 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-006-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	35	Y	FAC
2.			
3.			
4.			
5.			
6.			
	35 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	45	Y	FAC
2. Acer negundo	30	Y	FAC
3. Ligustrum sinen	5	N	FAC
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 2 =	0
FAC species	185	x 3 =	555
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	185 (A)		555 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-006-U1

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	,,	-1			Sandy Loam	
2-10	2.5Y,5,4	90	10YR,5,8	10	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-006-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.784 Long: -88.8276 Datum: WGS 1984

Soil Map Unit Name: Sweatman fine sandy loam, 5 to 8 percent slopes, eroded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-006-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2. Acer negundo	30	Y	FAC
3. Ligustrum sinen	10	N	FAC
4.			
5.			
6.			
	80 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Dichanthelium s	35	Y	OBL
2. Rudbeckia lacin	25	Y	FACW
3. Lycopodiella al	5	N	OBL
4. Scirpus cyperin	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	25	x 2 =	50
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	195 (A)		390 (B)

Prevalence Index = B/A = 2

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-006-W1

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
0-2	10YR,3,2	98	5YR,4,6	2	C	M	Sandy Clay Loam	
2-12	10YR,6,1	60	5YR,4,6	5	C	M	Silty Clay	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-007-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.7841 Long: -88.8326 Datum: WGS 1984

Soil Map Unit Name: Kinston loam, occasionally flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-007-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	25	Y	FACW
2. Acer negundo	10	Y	FAC
3. Quercus nigra	5	N	FAC
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Ligustrum sinen	40	Y	FAC
2. Quercus nigra	15	Y	FAC
3. Quercus phellos	10	N	FACW
4.			
5.			
6.			
	65 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	40	Y	FAC
2. Ligustrum sinen	5	N	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	45 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	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	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	155 (A)		425 (B)

Prevalence Index = B/A = 2.74

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-007-U1

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
0-1	10YR,4,2	100	,,	-1			Sandy Loam	
1-12	2.5Y,5,4	70	7.5YR,5,8	30	C	M	Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-007-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): Lat: 32.7841 Long: -88.8324 Datum: WGS 1984

Soil Map Unit Name: Kinston loam, occasionally flooded NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

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 along 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 ____	Depth (inches): 1
Water Table Present?	Yes ✓	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

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

Sampling Point: WW-01-007-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	20	Y	FACW
2. Quercus nigra	10	N	FAC
3. Liquidambar sty	5	N	FAC
4. Pinus taeda	5	N	FAC
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Ligustrum sinen	15	Y	FAC
2. Quercus phellos	10	Y	FACW
3. Quercus nigra	5	N	FAC
4. Acer negundo	5	N	FAC
5. Pinus taeda	5	N	FAC
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Carex crinita	8	Y	FACW
2. Ligustrum sinen	5	Y	FAC
3. Smilax rotundif	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	18 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	38	x 2 =	76
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	98 (A)		256 (B)

Prevalence Index = B/A = 2.61

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-007-W1

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
0-4	10YR,4,2	95	7.5YR,4,6	5	C	M	Silty Clay Loam	
4-14	2.5Y,6,4	65	7.5YR,5,8	35	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-008-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Convex Slope (%): 20

Subregion (LRR or MLRA): Lat: 32.7881 Long: -88.8289 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-008-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	60	Y	FACU
2. Quercus pagoda	10	N	FACW
3. Pinus taeda	5	N	FAC
4.			
5.			
6.			
	75	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	15	Y	FAC
2. Quercus falcata	15	Y	FACU
3. Quercus pagoda	5	N	FACW
4.			
5.			
6.			
	35	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	20	x 3 =	60
FACU species	75	x 4 =	300
UPL species	0	x 5 =	0
Column Totals:	110 (A)		390 (B)

Prevalence Index = B/A = 3.55

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-01-008-U1

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
0-2	10YR,4,2	100	,,	-1			Sandy Loam	
2-14	2.5Y,5,4	80	7.5YR,5,8	20			Sandy Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-008-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.7881 Long: -88.829 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-008-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Quercus phellos	20	Y	FACW
2. Quercus bicolor	15	Y	FACW
3. Acer negundo	10	N	FAC
4. Quercus nigra	10	N	FAC
5.			
6.			
	55 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		220 (B)

Prevalence Index = B/A = 2.59

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-01-008-W1

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
0-4	2.5Y,5,2	95	10YR,5,8	5	C	M	Silty Clay Loam	
4-16	10YR,6,3	60	7.5YR,5,8	40	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-014-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 40

Subregion (LRR or MLRA): Lat: 32.8017 Long: -88.8227 Datum: WGS 1984

Soil Map Unit Name: Mooreville-Kinston-Mantachie association, frequently flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-014-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	30	Y	FAC
2. Quercus alba	20	Y	FACU
3. Quercus nigra	5	N	FAC
4.			
5.			
6.			
	55	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus alba	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	65 (A)		220 (B)

Prevalence Index = B/A = 3.38

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-01-014-U1

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
0-14	2.5Y,5,4	98	10YR,5,8	2	C	M	Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-014-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 30

Subregion (LRR or MLRA): _____ Lat: 32.8017 Long: -88.8228 Datum: WGS 1984

Soil Map Unit Name: Mooreville-Kinston-Mantachie association, frequently flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-014-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Quercus alba	15	Y	FACU
3. Quercus nigra	5	N	FAC
4.			
5.			
6.			
	60	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	65 (A)		210 (B)

Prevalence Index = B/A = 3.23

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-01-014-W1

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
0-2	10YR,4,2	100	,,	-1			Clay Loam	
2-14	2.5Y,5,2	80	10YR,5,8	20	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-015-U1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.8005 Long: -88.8199 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-015-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	65	Y	FAC
2. Quercus nigra	20	N	FAC
3. Liquidambar sty	10	N	FAC
4. Quercus falcata	10	N	FACU
5.			
6.			
	105	= Total Cover	
50% of total cover:		20% of total cover:	

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	15	Y	FAC
2. Liquidambar sty	5	Y	FAC
3.			
4.			
5.			
6.			
	20	= Total Cover	
50% of total cover:		20% of total cover:	

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover:		20% of total cover:	

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	2	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	2	= Total Cover	
50% of total cover:		20% of total cover:	

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	132	x 3 =	396
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	142 (A)		436 (B)

Prevalence Index = B/A = 3.07

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-01-015-U1

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,4,3	100	,,	-1			Loam	
3-12	2.5Y,6,4	100	,,	-1			Fine Sandy Loam	
12-16	2.5Y,5,6	100	,,	-1			Sandy Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-015-W1

Investigator(s): Overcash, Dana, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): Lat: 32.8006 Long: -88.8198 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 _____	Depth (inches): 4	
Water Table Present?	Yes ✓	No _____	Depth (inches): 12	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-015-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	30	Y	FAC
2. Pinus taeda	20	Y	FAC
3. Liquidambar sty	15	Y	FAC
4. Quercus falcata	10	N	FACU
5.			
6.			
	75	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	80 (A)		250 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-015-W1

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
0-2	10YR,3,2	100	,,	-1			Clay Loam	
2-16	2.5Y,5,3	80	7.5YR,5,8	20	C	M	Clay	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-016-U1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3-5

Subregion (LRR or MLRA): Lat: 32.7998 Long: -88.823 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-016-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	20	Y	FAC
2. Pinus taeda	15	Y	FAC
3. Quercus falcata	5	N	FACU
4.			
5.			
6.			
	40	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Quercus nigra	10	Y	FAC
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	85 (A)		260 (B)

Prevalence Index = B/A = 3.06

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-016-U1

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
0-1	10YR,4,3	100	,,	-1			Sandy Loam	
1-14	10YR,6,4	98	10YR,6,8	2	C	M	Fine Sandy Loam	
14-16	10YR,5,6	100	,,	-1			Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-016-W1

Investigator(s): Overcash, Dana, Schultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): Lat: 32.7998 Long: -88.8228 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-016-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	40	N	FAC
2. Quercus nigra	15	Y	FAC
3. Pinus taeda	8	N	FAC
4.			
5.			
6.			
	63	= Total Cover	
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3. Pinus taeda	2	N	FAC
4.			
5.			
6.			
	17	= Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3. Lonicera japoni	2	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	17	= Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column Totals:	97 (A)		293 (B)

Prevalence Index = B/A = 3.02

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-01-016-W1

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
0-4	10YR,4,2	95	5YR,4,6	5	C	PL	Silt Loam	
4-16	2.5Y,5,3	90	5YR,5,8	10	C	M	Coarse Sandy Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-017-U1

Investigator(s): Overcash, Dana, Schultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 2-4

Subregion (LRR or MLRA): Lat: 32.7989 Long: -88.8213 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-017-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	3	N	FAC
3.			
4.			
5.			
6.			
	43 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	40	Y	FAC
2. Sassafras albid	10	N	FACU
3. Quercus nigra	8	N	FAC
4. Quercus michaux	5	N	FACW
5.			
6.			
	63 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Pinus taeda	5	Y	FAC
2. Smilax herbacea	5	Y	FAC
3. Smilax rotundif	3	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	13 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	104	x 3 =	312
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	119 (A)		362 (B)

Prevalence Index = B/A = 3.04

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-017-U1

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
0-2	10YR,2,2	100	,,	-1			Loam	
2-8	2.5Y,5,3	95	10YR,5,6	5	C	M	Fine Sandy Loam	
8-14	5YR,4,6	100	,,	-1			Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-017-W1

Investigator(s): Overcash, Dana, Schultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Interfluve Local relief (concave, convex, none): None Slope (%): 0

Subregion (LRR or MLRA): Lat: 32.7988 Long: -88.8214 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ✔	Depth (inches): ____
Water Table Present?	Yes ✔	No ____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-01-017-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer negundo	15	Y	FAC
2. Pinus taeda	15	Y	FAC
3. Quercus falcata	10	N	FACU
4. Liquidambar sty	10	Y	FAC
5. Quercus nigra	5	N	FAC
6. Quercus falcata	5	N	FACU
	60	= Total Cover	
50% of total cover:		20% of total cover:	
Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	20	Y	FAC
2. Quercus nigra	10	Y	FAC
3. Acer negundo	10	Y	FAC
4. Quercus falcata	5	N	FACU
5.			
6.			
	45	= Total Cover	
50% of total cover:		20% of total cover:	
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5)			
1. Smilax rotundif	5	Y	FAC
2. Pinus taeda	3	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	8	= Total Cover	
50% of total cover:		20% of total cover:	
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	93	x 3 =	279
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	113 (A)		359 (B)

Prevalence Index = B/A = 3.18

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-01-017-W1

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
0-1	10YR,3,2	100	,,	-1			Loam	
1-16	10YR,5,6	92	7.5YR,5,8	8	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-018-U1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5-7

Subregion (LRR or MLRA): _____ Lat: 32.7984 Long: -88.8235 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-018-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	15	Y	FAC
2. Pinus taeda	10	Y	FAC
3. Sassafras albid	10	Y	FACU
4. Quercus michaux	5	N	FACW
5. Liquidambar sty	5	N	FAC
6.			
	45	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	5	Y	FAC
2. Quercus michaux	3	Y	FACW
3.			
4.			
5.			
6.			
	8	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Andropogon virg	40	Y	FAC
2. Smilax rotundif	25	Y	FAC
3. Lonicera japoni	8	N	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	73	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

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: 87.5 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	8	x 2 =	16
FAC species	103	x 3 =	309
FACU species	18	x 4 =	72
UPL species	0	x 5 =	0
Column Totals:	129 (A)		397 (B)

Prevalence Index = B/A = 3.08

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-018-U1

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
0-6	10YR,5,3	100	,,	-1			Silt Loam	
6-12	7.5YR,5,6	100	,,	-1			Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-018-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Footslope Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR or MLRA): Lat: 32.7984 Long: -88.8234 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 5
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-018-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	35	N	FAC
2. Quercus nigra	25	Y	FAC
3. Quercus phellos	10	N	FACW
4. Sassafras albid	5	N	FACU
5.			
6.			
	75	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	30	Y	FAC
2. Liquidambar sty	10	Y	FAC
3. Quercus phellos	5	N	FACW
4. Pinus taeda	2	N	FAC
5.			
6.			
	47	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	20	Y	FAC
2. Juncus effusus	5	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	5	x 1 =	5
FACW species	15	x 2 =	30
FAC species	122	x 3 =	366
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	147 (A)		421 (B)

Prevalence Index = B/A = 2.86

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-018-W1

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,4,3	100	,,	-1			Silt Loam	
3-20	2.5Y,5,4	30	10YR,5,8	70	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-019-U1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Ridge Local relief (concave, convex, none): None Slope (%): 1-2

Subregion (LRR or MLRA): Lat: 32.7974 Long: -88.8226 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-019-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Echinochloa cru	40	Y	FACW
2. Dichanthelium s	15	Y	OBL
3. Solidago altiss	15	Y	FACU
4. Andropogon virg	15	Y	FAC
5. Solidago gigant	8	N	FACW
6. Erigeron canade	5	N	FACU
7.			
8.			
9.			
10.			
11.			
	98 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	15	x 1 =	15
FACW species	48	x 2 =	96
FAC species	30	x 3 =	90
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	113 (A)		281 (B)

Prevalence Index = B/A = 2.49

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-019-U1

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
0-5	10YR,4,4	100	,,	-1			Clay Loam	
5-12	10YR,5,3	100	,,	-1			Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-019-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1-2

Subregion (LRR or MLRA): Lat: 32.7974 Long: -88.8226 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-019-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	5	Y	FAC
2. Sassafras albid	3	Y	FACU
3.			
4.			
5.			
6.			
	8 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Dichanthelium s	40	Y	OBL
2. Echinochloa cru	25	Y	FACW
3. Scirpus cyperin	15	N	OBL
4. Saccharum gigan	8	N	FACW
5. Solidago gigant	7	N	FACW
6. Juncus brachyca	5	N	FACW
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	55	x 1 =	55
FACW species	45	x 2 =	90
FAC species	5	x 3 =	15
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	108 (A)		172 (B)

Prevalence Index = B/A = 1.59

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-019-W1

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
0-8	10YR,4,3	85	2.5YR,3,6	10	C	M	Silt Loam	
8-12	7.5YR,5,6	100	,,	-1			Clay	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-020-U1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): _____ Lat: 32.7994 Long: -88.8255 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-020-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	20	Y	FACU
2. Pinus taeda	20	N	FAC
3. Quercus pagoda	10	Y	FACW
4.			
5.			
6.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus falcata	10	Y	FACU
2. Pinus taeda	10	Y	FAC
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax herbacea	15	Y	FAC
2. Smilax rotundif	5	Y	FAC
3. Echinochloa cru	2	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	22	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	12	x 2 =	24
FAC species	50	x 3 =	150
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	92 (A)		294 (B)

Prevalence Index = B/A = 3.2

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-020-U1

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
0-12	2.5YR,5,4	100	,,	-1			Silt Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-020-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR or MLRA): Lat: 32.7994 Long: -88.8256 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-020-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	20	Y	FAC
2. Quercus pagoda	15	Y	FACW
3. Quercus falcata	5	N	FACU
4. Liquidambar sty	5	N	FAC
5.			
6.			
	45	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Echinochloa cru	10	Y	FACW
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	30	x 3 =	90
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	60 (A)		160 (B)

Prevalence Index = B/A = 2.67

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-020-W1

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
0-12	2.5YR,4,2	85	10YR,5,8	15			Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-021-U1

Investigator(s): Overcash, Dana Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7964 Long: -88.8196 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-021-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus falcata	25	N	FACU
2. Acer negundo	10	N	FAC
3. Quercus nigra	10	N	FAC
4. Liquidambar sty	8	N	FAC
5.			
6.			
	68	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	10	Y	FAC
2. Quercus falcata	10	Y	FACU
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	15	Y	FAC
2. Lonicera japoni	5	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 28.571428 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	53	x 3 =	159
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	93 (A)		319 (B)

Prevalence Index = B/A = 3.43

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-01-021-U1

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	,,	-1			Silty Clay Loam	
1-13	2.5Y,5,3	100	,,	-1			Silty Clay Loam	
13-16	10YR,5,6	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-021-W1

Investigator(s): Overcash, Dana, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 2-3

Subregion (LRR or MLRA): Lat: 32.7965 Long: -88.8197 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____	
Water Table Present?	Yes ✔	No _____	Depth (inches): 9	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-01-021-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	40	Y	FAC
2. Quercus nigra	20	Y	FAC
3. Quercus lyrata	10	N	OBL
4.			
5.			
6.			
	70	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	25	Y	FAC
2. Lonicera japoni	5	N	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	95	x 3 =	285
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	110 (A)		315 (B)

Prevalence Index = B/A = 2.86

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-021-W1

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
0-5	10YR,4,2	100	,,	-1			Silty Clay Loam	
5-16	2.5Y,5,2	80	10YR,5,8	20	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-022-U1

Investigator(s): Witherington, Emma, Bollinger, Paul Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 0.5

Subregion (LRR or MLRA): Lat: 32.7949 Long: -88.8197 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-01-022-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus alba	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2. Acer rubrum	10	Y	FAC
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Andropogon virg	10	Y	FAC
2. Smilax rotundif	5	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	40 (A)		125 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-022-U1

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
6-12	10YR,5,8	100	,,	-1			Silt Loam	
0-1	10YR,2,1	100	,,	-1			Silt Loam	
1-3	2.5Y,5,3	100	,,	-1			Silt Loam	
3-6	10YR,5,4	100	,,	-1			Silt Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-01-022-W1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.7949 Long: -88.8196 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-01-022-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	35	Y	FAC
2. Liquidambar sty	10	Y	FAC
3. Acer rubrum	2	N	FAC
4.			
5.			
6.			
	47 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Juncus effusus	70	Y	OBL
2. Scirpus cyperin	15	N	OBL
3. Rubus allegheni	5	N	UPL
4. Lonicera japoni	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	85	x 1 =	85
FACW species	0	x 2 =	0
FAC species	47	x 3 =	141
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	142 (A)		271 (B)

Prevalence Index = B/A = 1.91

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-01-022-W1

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
0-1	10YR,5,2	100	,,	-1			Silty Clay Loam	
1-13	2.5Y,5,2	60	7.5YR,4,6	40	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/30/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-002-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7896 Long: -88.8349 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-002-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus echinata	40	Y	upl
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	30 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	40	x 5 =	200
Column Totals:	130 (A)		500 (B)

Prevalence Index = B/A = 3.85

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-002-U1

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
0-12	10YR,6,6	100	,,	-1			Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-002-U2

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8

Subregion (LRR or MLRA): Lat: 32.7907 Long: -88.8343 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-002-U2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	7 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Saccharum gigan	10	Y	FACW
2. Dichanthelium s	10	Y	FACW
3. Rubus trivialis	5	N	FACU
4. Eupatorium capi	5	N	FACU
5. Andropogon virg	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 10 (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	20	x 2 =	40
FAC species	105	x 3 =	315
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	135 (A)		395 (B)

Prevalence Index = B/A = 2.93

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-002-U2

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,3,2	100	,,	-1			Silty Clay Loam	
3-12	10YR,5,3	85	7.5YR,4,6	15			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/30/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-002-W1

Investigator(s): Casey, Justin Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.7896 Long: -88.8348 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-002-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	40	Y	FACW
2. Liquidambar sty	25	Y	FAC
3. Acer rubrum	25	N	FAC
4.			
5.			
6.			
	90	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	25	Y	FAC
2. Liquidambar sty	20	Y	FAC
3.			
4.			
5.			
6.			
	45	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (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	40	x 2 =	80
FAC species	135	x 3 =	405
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	175 (A)		485 (B)

Prevalence Index = B/A = 2.77

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-002-W1

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
0-4	10YR,4,2	80	10YR,5,8	20			Muck	
4-12	10YR,5,3	50	10YR,5,8	35			Silty Clay Loam	
4-12	10YR,5,3	50	5YR,5,8	15				

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-002-W2

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.7903 Long: -88.8345 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 _____	Depth (inches): 10	
Water Table Present?	Yes ✔	No _____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-002-W2

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	15	Y	FAC
2. Acer rubrum	5	Y	FAC
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	85 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Scirpus cyperin	2	Y	OBL
2. Saccharum gigan	2	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	4 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	2	x 1 =	2
FACW species	2	x 2 =	4
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	34 (A)		96 (B)

Prevalence Index = B/A = 2.82

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-002-W2

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
0-5	10YR,3,2	100	,,	-1			Muck	
5-12	10YR,6,2	85	10YR,5,8	15			Silty Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 01/31/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-002-W3

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.7907 Long: -88.8342 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 _____	Depth (inches): 8	
Water Table Present?	Yes ✓	No _____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-002-W3

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Scirpus cyperin	55	Y	OBL
2. Saccharum gigan	40	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	55	x 1 =	55
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		150 (B)

Prevalence Index = B/A = 1.5

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-002-W3

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
0-12	10YR,5,1	80	7.5YR,4,6	20			Silty Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-003-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Convex Slope (%): 2

Subregion (LRR or MLRA): Lat: 32.7845 Long: -88.8319 Datum: WGS 1984

Soil Map Unit Name: Kinston loam, occasionally flooded NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-003-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	10	Y	FAC
2. Quercus nigra	5	Y	FAC
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Quercus nigra	15	Y	FAC
2.			
3.			
4.			
5.			
6.			
	15 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	60 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	45 (A)		135 (B)

Prevalence Index = B/A = 3

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-02-003-U1

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
0-4	10YR,5,4	100	,,	-1			Silty Clay Loam	
4-12	10YR,5,3	95	10YR,5,8	5	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-003-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): None Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.7846 Long: -88.832 Datum: WGS 1984

Soil Map Unit Name: Kinston loam, occasionally flooded NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 6

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-003-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus phellos	55	Y	FACW
2. Quercus nigra	30	Y	FAC
3. Pinus taeda	10	N	FAC
4. Fagus grandifol	5	N	FACU
5.			
6.			
	100 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2. Quercus phellos	10	Y	FACW
3. Quercus nigra	10	Y	FAC
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.714285 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	80	x 3 =	240
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	155 (A)		410 (B)

Prevalence Index = B/A = 2.65

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-003-W1

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
0-5	10YR,6,4	95	7.5YR,5,8	5	C	M	Silty Clay Loam	
5-12	10YR,6,2	85	10YR,5,8	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-004-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7854 Long: -88.8328 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-004-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	20	Y	FAC
2. Acer rubrum	20	Y	FAC
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	15	Y	FAC
3.			
4.			
5.			
6.			
	55 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	135	x 3 =	405
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	135 (A)		405 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-004-U1

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
0-12	7.5YR,5,6	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-004-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.7855 Long: -88.8327 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 9
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 8

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-004-W1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	90 = Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

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 (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, and 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** ✔ **No** ___

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

SOIL

Sampling Point: WW-02-004-W1

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
0-12	10YR,5,2	85	7.5YR,5,8	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-005-U1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.7867 Long: -88.8319 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-005-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	85	Y	FAC
2.			
3.			
4.			
5.			
6.			
	85 = Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2. Liquidambar sty	10	Y	FAC
3.			
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	135	x 3 =	405
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	135 (A)		405 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-02-005-U1

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
0-12	10YR,5,6	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/01/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-005-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.7867 Long: -88.832 Datum: WGS 1984

Soil Map Unit Name: Water NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 6

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-005-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	50	Y	FAC
2. Quercus phellos	15	N	FACW
3. Acer rubrum	15	N	FAC
4. Liquidambar sty	10	N	FAC
5.			
6.			
	90 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2. Liquidambar sty	5	Y	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Carex acutiform	10	Y	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	15	x 2 =	30
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		300 (B)

Prevalence Index = B/A = 2.61

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-005-W1

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
0-6	10YR,5,3	90	10YR,5,8	10	C	M	Silty Clay Loam	
6-12	10YR,6,2	85	10YR,5,8	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-012-U1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.8001 Long: -88.8147 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-012-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	45	Y	FAC
2. Baccharis halim	5	N	FAC
3.			
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		270 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-012-U1

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
0-12	10YR,5,6	100	,,	-1				

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-012-W1

Investigator(s): Casey, Justin, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Head Slope Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.8003 Long: -88.8147 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-012-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	25	Y	FAC
2. Salix nigra	10	Y	OBL
3.			
4.			
5.			
6.			
	35 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Carex glaucesce	25	Y	OBL
2. Rhexia parviflo	10	Y	OBL
3. Rubus arvensis	10	Y	FAC
4. Juncus effusus	10	Y	OBL
5. Scirpus cyperin	10	Y	OBL
6. Saccharum gigan	10	Y	FACW
7. Eupatorium perf	5	N	FACW
8. Ludwigia pilosa	5	N	OBL
9.			
10.			
11.			
	85 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	70	x 1 =	70
FACW species	15	x 2 =	30
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		235 (B)

Prevalence Index = B/A = 1.81

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-012-W1

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
0-6	10YR,5,3	55	10YR,5,8	45	C	M	Clay	
6-14	10YR,5,2	60	7.5YR,5,8	40	C	M	Clay	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/08/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-013-U1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 15

Subregion (LRR or MLRA): Lat: 32.8019 Long: -88.8161 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-013-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	5	Y	FAC
2. Liquidambar sty	5	Y	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	55 (A)		170 (B)

Prevalence Index = B/A = 3.09

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-013-U1

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
0-10	10YR,6,4	100	,,	-1			Clay Loam	
10-14	7.5YR,6,4	100	,,	-1			Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/08/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-013-W1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.802 Long: -88.8161 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

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 along 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 ____	Depth (inches): 2	
Water Table Present?	Yes ✔	No ____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-02-013-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	20	Y	FAC
2. Liquidambar sty	20	Y	FAC
3. Salix nigra	10	N	OBL
4.			
5.			
6.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Osmundastrum ci	35	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	10	x 1 =	10
FACW species	35	x 2 =	70
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		320 (B)

Prevalence Index = B/A = 2.56

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-013-W1

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
0-12	10YR,5,2	60	7.5YR,5,8	40	C	M	Silty Clay	

[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)**
- ___ 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 ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-014-U1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7969 Long: -88.8164 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-014-U1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
	70 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Andropogon virg	15	Y	FAC
2. Rubus trivialis	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	85	x 3 =	255
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	100 (A)		315 (B)

Prevalence Index = B/A = 3.15

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-014-U1

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,5,6	100	,,	-1			Clay	
3-12	5YR,5,8	100	,,	-1			Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-014-W1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.7969 Long: -88.8165 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 _____	Depth (inches): 1	
Water Table Present?	Yes ✓	No _____	Depth (inches): 0	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-014-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	35	Y	FAC
2.			
3.			
4.			
5.			
6.			
	35 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Scirpus cyperin	55	Y	OBL
2. Saccharum gigan	25	Y	FACW
3. Rubus arvensis	10	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	55	x 1 =	55
FACW species	25	x 2 =	50
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		345 (B)

Prevalence Index = B/A = 2.16

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-014-W1

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
0-2	10YR,5,3	100	,,	-1			Silt	
2-8	10YR,5,3	50	10YR,5,8	50	C	M	Silty Clay	
8-12	10YR,5,2	50	7.5YR,5,8	50	C	M	Clay	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-015-U1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7968 Long: -88.8171 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-015-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	60	Y	FAC
2. Liquidambar sty	20	Y	FAC
3.			
4.			
5.			
6.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	25	Y	FAC
2.			
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	105	x 3 =	315
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		315 (B)

Prevalence Index = B/A = 3

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-02-015-U1

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
0-12	10YR,5,3	85	10YR,5,8	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 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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region | City/County: Kemper | Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams | State: MS | Sampling Point: WW-02-015-W1

Investigator(s): Casey, Justin, Shultz, Dave | Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway | Local relief (concave, convex, none): Concave | Slope (%): 3

Subregion (LRR or MLRA): | Lat: 32.7967 | Long: -88.8172 | Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes | NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 2

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-015-W1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Juncus effusus	30	Y	OBL
2. Scirpus cyperin	10	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	40	x 1 =	40
FACW species	0	x 2 =	0
FAC species	80	x 3 =	240
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	120 (A)		280 (B)

Prevalence Index = B/A = 2.33

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-015-W1

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
0-14	10YR,5,2	85	7.5YR,5,8	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-016-U1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7977 Long: -88.818 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-016-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
	50 = Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1. Rubus arvensis	35	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	35 = Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	85	x 3 =	255
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	85 (A)		255 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-02-016-U1

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
0-6	10YR,5,4	100	,,	-1			Clay Loam	
6-12	10YR,5,6	100	,,	-1			Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-016-W1

Investigator(s): Casey, Justin, Shultz, Dave Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.7978 Long: -88.818 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes ✓	No _____	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-02-016-W1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Dichanthelium s	60	Y	OBL
2. Saccharum gigan	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	65 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	60	x 1 =	60
FACW species	5	x 2 =	10
FAC species	60	x 3 =	180
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	125 (A)		250 (B)

Prevalence Index = B/A = 2

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-016-W1

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
0-6	10YR,5,2	85	7.5YR,5,8	15	C	M	Silty Clay	
6-12	10YR,5,3	70	7.5YR,5,8	30	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-017-U1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7974 Long: -88.8178 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-017-U1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	55	Y	FAC
2.			
3.			
4.			
5.			
6.			
	55 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Dichanthelium s	25	Y	FACW
2. Eupatorium capi	15	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	25	x 2 =	50
FAC species	110	x 3 =	330
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	150 (A)		440 (B)

Prevalence Index = B/A = 2.93

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-02-017-U1

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
0-12	10YR,5,6	100	,,	-1				

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-017-W1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7973 Long: -88.8178 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PSS

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-02-017-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Nyssa biflora	10	Y	OBL
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2. Nyssa biflora	10	Y	OBL
3.			
4.			
5.			
6.			
	30 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Dichanthelium s	20	Y	OBL
2. Ludwigia altern	15	Y	OBL
3. Andropogon virg	10	N	FAC
4. Woodwardia areo	10	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	55 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		185 (B)

Prevalence Index = B/A = 1.76

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-017-W1

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
0-12	10YR,5,2	80	10YR,5,6	20	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-018-U1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.7988 Long: -88.8173 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-02-018-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	45	Y	FAC
2. Pinus taeda	20	Y	FAC
3.			
4.			
5.			
6.			
	65	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	50	Y	FAC
2.			
3.			
4.			
5.			
6.			
	50	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	115	x 3 =	345
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	115 (A)		345 (B)

Prevalence Index = B/A = 3

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-02-018-U1

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
0-14	10YR,5,4	100	,,	-1				

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/10/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-02-018-W1

Investigator(s): Casey, Justin Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Convex Slope (%): 1

Subregion (LRR or MLRA): Lat: 32.7988 Long: -88.8173 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✔ No ____
Hydric Soil Present?	Yes ✔	No ____	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

shallow ponded wetland connected to wetland we-t02-016 by a culvert under road. pounding appears to be caused by the culvert elevation.

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 along 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 ____	Depth (inches): 7
Water Table Present?	Yes ✔	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-02-018-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Cyperus distinc	25	Y	FACW
2. Scirpus cyperin	15	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	15	x 1 =	15
FACW species	25	x 2 =	50
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	45 (A)		80 (B)

Prevalence Index = B/A = 1.78

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 (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, and 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 ✔ No _____

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

Rhexia sp. and Rhyncospora sp. at 15 percent total coverage.

SOIL

Sampling Point: WW-02-018-W1

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
0-6	10YR,5,2	100	,,	-1			Clay Loam	
6-14	10YR,5,2	80	10YR,5,6	20	C	M	Clay Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-001-U1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 6-10

Subregion (LRR or MLRA): Lat: 32.7983 Long: -88.8144 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

possibly manmade due to earth movement activities

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-03-001-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
	40 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Sorghum halepen	60	Y	FACU
2. Ulmus alata	20	N	FACU
3. Smilax rotundif	10	N	FAC
4. Solidago altiss	10	N	FACU
5. Andropogon virg	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	3 = 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: 15 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 13.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	55	x 3 =	165
FACU species	93	x 4 =	372
UPL species	0	x 5 =	0
Column Totals:	148 (A)		537 (B)

Prevalence Index = B/A = 3.63

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-03-001-U1

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
0-2	10YR,2,1	100	,,	-1	C	M	Silty Clay Loam	
2-12	5YR,4,6	60	,,	-1	C	M	Silty Clay	
12-20	5YR,4,6	40	,,	-1	C	M	Silty Clay	

[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)**
___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-001-W1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): Lat: 32.7985 Long: -88.8144 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ✔	No ____	

Remarks:

possible manmade from old earth moving activities

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 along 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 ____	Depth (inches): 0.25
Water Table Present?	Yes ✔	No ____	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ✔	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

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

Sampling Point: WW-03-001-W1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Solidago altiss	30	Y	FACU
2. Juncus brachyca	20	Y	FACW
3. Echinochloa cru	20	Y	FACW
4. Scirpus cyperin	10	N	OBL
5. Rhynchospora gl	10	N	OBL
6. Ludwigia altern	5	N	OBL
7. Andropogon glom	2	N	FACW
8.			
9.			
10.			
11.			
	97 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 18 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	35	x 1 =	35
FACW species	42	x 2 =	84
FAC species	10	x 3 =	30
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	117 (A)		269 (B)

Prevalence Index = B/A = 2.3

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-03-001-W1

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
0-6	10YR,3,2	90	10YR,3,6	10	C	M	Silt Loam	
6-20	10YR,6,6	70	5YR,4,6	30	C	M	Silty Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-002-U1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 3

Subregion (LRR or MLRA): Lat: 32.7983 Long: -88.8149 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-03-002-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
	30 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	50 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Panicum flexile	90	Y	FAC
2. Sorghum halepen	10	N	FACU
3. Andropogon glom	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	120	x 3 =	360
FACU species	10	x 4 =	40
UPL species	30	x 5 =	150
Column Totals:	165 (A)		560 (B)

Prevalence Index = B/A = 3.39

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-03-002-U1

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,2,1	100	,,	-1			Silty Clay Loam	
3-20	7.5YR,5,6	90	5YR,4,6	10	RM	M	Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/06/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-002-W1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): Lat: 32.7984 Long: -88.815 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 _____	Depth (inches): 0.5	
Water Table Present?	Yes ✔	No _____	Depth (inches): 2	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-03-002-W1

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	20	Y	FAC
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum (Plot size: 5)			
1. Andropogon virg	90	Y	FAC
2. Solidago altiss	7	N	FACU
3. Scirpus pendulu	5	N	OBL
4. Rhynchospora gl	5	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	107 = Total Cover		
50% of total cover: ____ 20% of total cover: ____			
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	130	x 3 =	390
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	147 (A)		428 (B)

Prevalence Index = B/A = 2.91

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 (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, and 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 ✔ No ____

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

SOIL

Sampling Point: WW-03-002-W1

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
0-6	10YR,3,1	90	10YR,4,1	10	RM	M	Silty Clay Loam	
6-20	7.5YR,5,8	65	2.5Y,5,3	35	RM	M	Silty Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-003-U1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

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

Subregion (LRR or MLRA): Lat: 32.8004 Long: -88.8325 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ____ No ✔
Hydric Soil Present?	Yes ____	No ✔	
Wetland Hydrology Present?	Yes ____	No ✔	

Remarks:

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

Wetland Hydrology Present? Yes ____ No ✔

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

Remarks:

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

Sampling Point: WW-03-003-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus nigra	5	Y	FAC
2. Pinus taeda	5	Y	FAC
3.			
4.			
5.			
6.			
	10 = Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1. Liquidambar sty	10	Y	FAC
2. Quercus pagoda	5	Y	FACW
3. Pinus taeda	2	N	FAC
4.			
5.			
6.			
	17 = Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1. Ulmus alata	40	Y	FACU
2. Smilax herbacea	5	N	FAC
3. Morella cerifer	5	N	FAC
4. Lonicera japoni	0	N	FACU
5. Smilax laurifol	0	N	FACW
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 57.142857 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	32	x 3 =	96
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	77 (A)		266 (B)

Prevalence Index = B/A = 3.45

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-03-003-U1

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
0-2	10YR,3,2	100	,,	-1			Sandy Clay Loam	
2-20	2.5Y,6,3	60	10YR,5,8	40	C	M	Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-003-W1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.8004 Long: -88.8324 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

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

Are Vegetation N, Soil N, or Hydrology N 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 ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

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 along 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 ____	Depth (inches): 2	
Water Table Present?	Yes ✓	No ____	Depth (inches): 2	
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No ____

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

Remarks:

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

Sampling Point: WW-03-003-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	20	Y	FAC
2. Liquidambar sty	5	Y	FAC
3.			
4.			
5.			
6.			
	25	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	40	Y	FAC
2. Pinus taeda	5	N	FAC
3. Quercus nigra	5	N	FAC
4. Quercus pagoda	5	N	FACW
5.			
6.			
	55	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	10	Y	FAC
2. Lonicera japoni	3	Y	FACU
3. Juncus effusus	2	N	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.333333 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	2	x 1 =	2
FACW species	5	x 2 =	10
FAC species	90	x 3 =	270
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	100 (A)		294 (B)

Prevalence Index = B/A = 2.94

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-03-003-W1

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
0-2	10YR,5,2	95	10YR,5,8	5	C	PL	Silt Loam	
2-20	2.5YR,5,3	85	10YR,6,8	15	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 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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-004-U1

Investigator(s): Witherington, Emma, Bollinger, Paul Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5-10

Subregion (LRR or MLRA): _____ Lat: 32.8 Long: -88.8291 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-03-004-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Acer rubrum	30	Y	FAC
2. Quercus nigra	10	N	FAC
3. Ulmus alata	10	N	FACU
4. Pinus taeda	5	N	FAC
5.			
6.			
	55 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Lonicera japoni	15	Y	FACU
2. Smilax rotundif	10	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	25 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 4 (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	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	85 (A)		280 (B)

Prevalence Index = B/A = 3.29

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-03-004-U1

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,2,1	100	,,	-1			Silty Clay Loam	
1-3	10YR,4,1	100	,,	-1			Silty Clay	
3-20	2.5Y,6,2	100	,,	-1			Silty Clay	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/07/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-004-W1

Investigator(s): Bollinger, Paul, Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): Lat: 32.7999 Long: -88.829 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

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 along 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 _____	Depth (inches): 0.5	
Water Table Present?	Yes ✓	No _____	Depth (inches): 2	
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0	**Wetland Hydrology Present?** Yes ✓ No _____

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

Remarks:

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

Sampling Point: WW-03-004-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	10	N	FAC
2. Pinus taeda	5	Y	FAC
3. Acer rubrum	5	Y	FAC
4.			
5.			
6.			
	20	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Pinus taeda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	5	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Cinna arundinac	50	Y	FACW
2. Juncus dudleyi	5	N	FACW
3. Smilax rotundif	5	N	FAC
4. Rubus allegheni	5	N	UPL
5. Lycopus virgini	5	N	OBL
6. Solidago altiss	3	N	FACU
7.			
8.			
9.			
10.			
11.			
	73	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	5	x 1 =	5
FACW species	55	x 2 =	110
FAC species	45	x 3 =	135
FACU species	3	x 4 =	12
UPL species	5	x 5 =	25
Column Totals:	113 (A)		287 (B)

Prevalence Index = B/A = 2.54

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-03-004-W1

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
0-6	10YR,5,1	80	10YR,6,1	20	RM	M	Silt Loam	
6-12	10YR,6,1	60	7.5YR,5,8	40	RM	M	Silt Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/08/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-005-U1

Investigator(s): Bollinger, Paul, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Concave Slope (%): 2-4

Subregion (LRR or MLRA): MLRA Lat: 32.7977 Long: -88.8279 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes _____	No ✔	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✔	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✔

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

Remarks:

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

Sampling Point: WW-03-005-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus taeda	10	Y	FAC
2.			
3.			
4.			
5.			
6.			
	10 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1. Sassafras albid	5	Y	FACU
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	20 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	70	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	30 = 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: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.428571 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	120 (A)		375 (B)

Prevalence Index = B/A = 3.13

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 (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, and 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 ✔ No _____

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

SOIL

Sampling Point: WW-03-005-U1

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,3,1	100	,,	-1			Silty Clay Loam	
0-6	10YR,3,2	100	,,	-1			Silty Clay	
6-20	10YR,6,6	100	,,	-1			Silt	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/08/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-005-W1

Investigator(s): Bollinger, Paul, Jeter, Nicole Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): MLRA Lat: 32.7976 Long: -88.828 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PFO

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____
Water Table Present?	Yes ✔	No _____	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-03-005-W1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Acer rubrum	40	Y	FAC
2. Liquidambar sty	40	Y	FAC
3.			
4.			
5.			
6.			
	80	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Herb Stratum (Plot size: 5)			
1. Smilax rotundif	30	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30	= Total Cover	

50% of total cover: _____ 20% of total cover: _____

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0	= 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	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	110	x 3 =	330
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	110 (A)		330 (B)

Prevalence Index = B/A = 3

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 (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, and 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** ✔ **No** _____

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

SOIL

Sampling Point: WW-03-005-W1

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
0-2	10YR,3,1	100	,,	-1			Silty Clay Loam	
1-20	2.5YR,6,2	60	10YR,6,8	40			Silty Clay	

[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)**
- ___ 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** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 02/09/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-03-006-U1

Investigator(s): Witherington, Emma Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 5

Subregion (LRR or MLRA): Lat: 32.7966 Long: -88.827 Datum: WGS 1984

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

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 along 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 ✔	Depth (inches): _____	
Water Table Present?	Yes ✔	No _____	Depth (inches): 4	
Saturation Present? (includes capillary fringe)	Yes ✔	No _____	Depth (inches): 3	**Wetland Hydrology Present?** Yes ✔ No _____

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

Remarks:

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

Sampling Point: WW-03-006-U1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1. Liquidambar sty	5	Y	FAC
2.			
3.			
4.			
5.			
6.			
	5 = Total Cover		
50% of total cover:	20% of total cover:		
Sapling Stratum (Plot size: 15)			
1. Pinus taeda	5	Y	FAC
2. Quercus nigra	5	Y	FAC
3. Juniperus virgi	5	Y	FACU
4. Acer rubrum	0	N	FAC
5.			
6.			
	15 = Total Cover		
50% of total cover:	20% of total cover:		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5)			
1. Rubus allegheni	60	Y	UPL
2. Smilax herbacea	20	Y	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	80 = Total Cover		
50% of total cover:	20% of total cover:		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = 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: 66.666666 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	5	x 4 =	20
UPL species	60	x 5 =	300
Column Totals:	100 (A)		425 (B)

Prevalence Index = B/A = 4.25

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 (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, and 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 ✔ No ___

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

SOIL

Sampling Point: WW-03-006-U1

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
5-20	10YR,6,2	65	10YR,4,6	35	RM	M	Silt	
0-1	10YR,2,2	100	,,	-1			Silty Clay Loam	
1-5	10YR,5,3	100	,,	-1			Silty Clay Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 10/22/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-05-006-UP1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 3629289.3 Long: 329272.7 Datum: NAD83

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

on Joe Williams NOLF. in mowed area. Mapped NWI PFO1/SS1A. Upland pit approximately 20 ft upslope W of wetland pit.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-006-UP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Digitaria sanguinalis	30	Y	FACU
2. Rubus allegheniensis	25	Y	UPL
3. Solidago altissima	20	Y	FACU
4. Dichanthelium scoparium	10	N	FACW
5. Acer rubrum	5	N	FAC
6. Clematis virginiana	5	N	FAC
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	10	x 3 =	30
FACU species	50	x 4 =	200
UPL species	25	x 5 =	125
Column Totals:	95 (A)		375 (B)

Prevalence Index = B/A = 3.95

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-05-006-UP1

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	10YR4/3	100					Loam	
8-16	10YR5/6	95	7.5YR5/8	5	C	M	Loam	

[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)**
- ___ 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** ✓

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 10/22/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-05-006-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 329290 Long: 3629295.1 Datum: NAD83

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

at Joe Williams NOLF. mapped NWI PFO1/SS1A. area has been mowed and is currently PEM.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

Mapped NWI PFO1/SS1A.

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

Sampling Point: WW-05-006-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Juncus effusus	70	Y	OBL
2. Rubus allegheniensis	10	N	UPL
3. Clematis virginiana	5	N	FAC
4. Persicaria hydropiperoides	5	N	OBL
5. Solidago altissima	5	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	95 = Total Cover		
50% of total cover: 47.5	20% of total cover: 19		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

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 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	75	x 1 =	75
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	5	x 4 =	20
UPL species	10	x 5 =	50
Column Totals:	95 (A)		160 (B)

Prevalence Index = B/A = 1.68

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-006-WET1

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	10YR5/2	80	2.5YR3/6	15	C	PL	Loam	

[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)**
- ___ 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** _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 10/22/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-05-007-UP1

Investigator(s): Dutton, Rebecca Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): Convex Slope (%): 3

Subregion (LRR or MLRA): LRR P Lat: 3629499.7 Long: 329357.9 Datum: NAD83

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: UPL

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes _____	No ✓	

Remarks:

on Joe Williams NOLF. area is mowed. upland pit is approximately 20 ft upslope S of wetland pit.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:

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

Sampling Point: WW-05-007-UP1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		
Herb Stratum (Plot size: 5)			
1. Rubus allegheniensis	25	Y	UPL
2. Solidago altissima	20	Y	FACU
3. Digitaria sanguinalis	15	Y	FACU
4. Smilax rotundifolia	5	N	FAC
5. Pinus taeda	5	N	FAC
6.			
7.			
8.			
9.			
10.			
11.			
	70 = Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
50% of total cover: 0	20% of total cover: 0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 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	10	x 3 =	30
FACU species	35	x 4 =	140
UPL species	25	x 5 =	125
Column Totals:	70 (A)		295 (B)

Prevalence Index = B/A = 4.21

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 (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, and 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 _____ No ✓

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

SOIL

Sampling Point: WW-05-007-UP1

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
0-12	10YR6/6	85	7.5YR5/8	15	C	M	Loam	

[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)**
___ 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** ✓

Remarks:

soil too hard to get below 12". multiple pits attempted.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: AGCP Region City/County: Kemper Sampling Date: 10/22/2015

Applicant/Owner: OLF Joe Williams State: MS Sampling Point: WW-05-007-WET1

Investigator(s): Dutton, Rebecca; Jeter, Nicole Section, Township, Range: N/A

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

Subregion (LRR or MLRA): LRR P Lat: 3629504.6 Long: 329353 Datum: NAD83

Soil Map Unit Name: Sweatman-Smithdale association, 5 to 12 percent slopes NWI classification: PEM

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

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation N, Soil N, or Hydrology N 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 _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

at Joe Williams NOLF. area is mowed. Mapped NWI PSS1A.

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 along 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 ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks:

mapped NWI PSS1A

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

Sampling Point: WW-05-007-WET1

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Sapling Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

Herb Stratum (Plot size: 5)			
1. Juncus effusus	60	Y	OBL
2. Arundinaria gigantea	10	N	FACW
3. Rubus allegheniensis	10	N	UPL
4. Solidago altissima	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	90 = Total Cover		

50% of total cover: 45 20% of total cover: 18

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		

50% of total cover: 0 20% of total cover: 0

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 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	10	x 4 =	40
UPL species	10	x 5 =	50
Column Totals:	90 (A)		170 (B)

Prevalence Index = B/A = 1.89

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 (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, and 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 ✓ No ___

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

SOIL

Sampling Point: WW-05-007-WET1

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	7.5YR4/2	97	7.5YR4/6	3	C	PL	Loam	
3-16	10YR6/2	65	7.5YR5/6	35	C	M	Loam	

[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)**
- ___ 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** _____

Remarks:

B-2 NOLF Joe Williams Stream Datasheets

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STREAM ID: SS SS-01-002

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 01/30/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☑ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ **yes**
☐ **no**
If yes, list:
crawfish

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

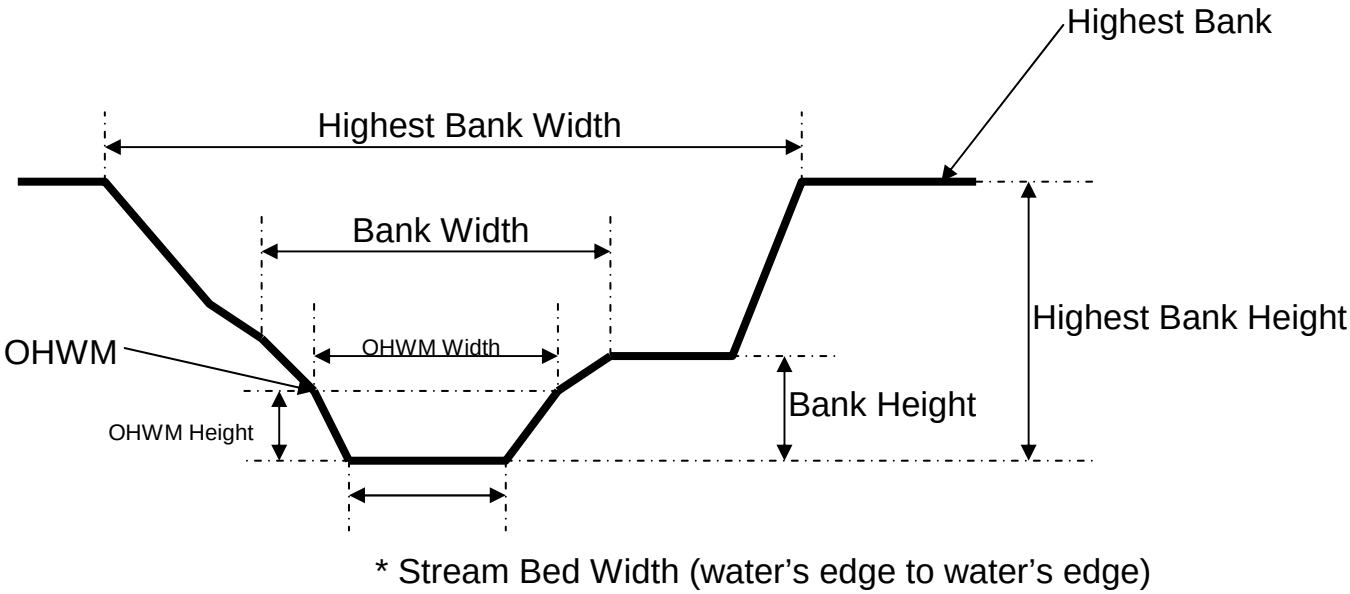
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☐ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-003

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:** _____

Date: 01/30/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☑ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☑ **Other:** wildlife impact

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*: _____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*: _____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):** _____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer, racoon

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☑ other (list): erosion

Discontinuous OHWM: ☑ **yes** ☐ **no**

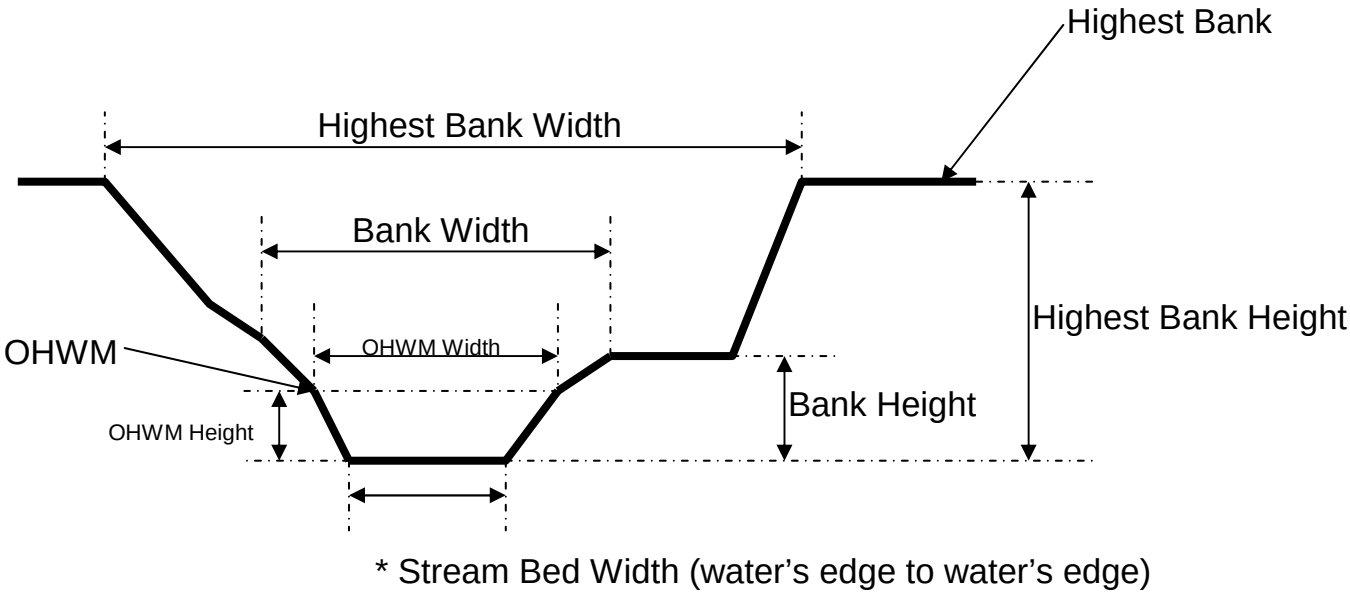
Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☑ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:** _____
☐ **man-altered – Explain:** _____

NOTES:

sst01002 overflows into this via PFO wetland



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-003A

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 01/30/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 4.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 4.00000000	**Height (ft):** 4.00000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ **yes**
☐ **no**
If yes, list:
crayfish

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

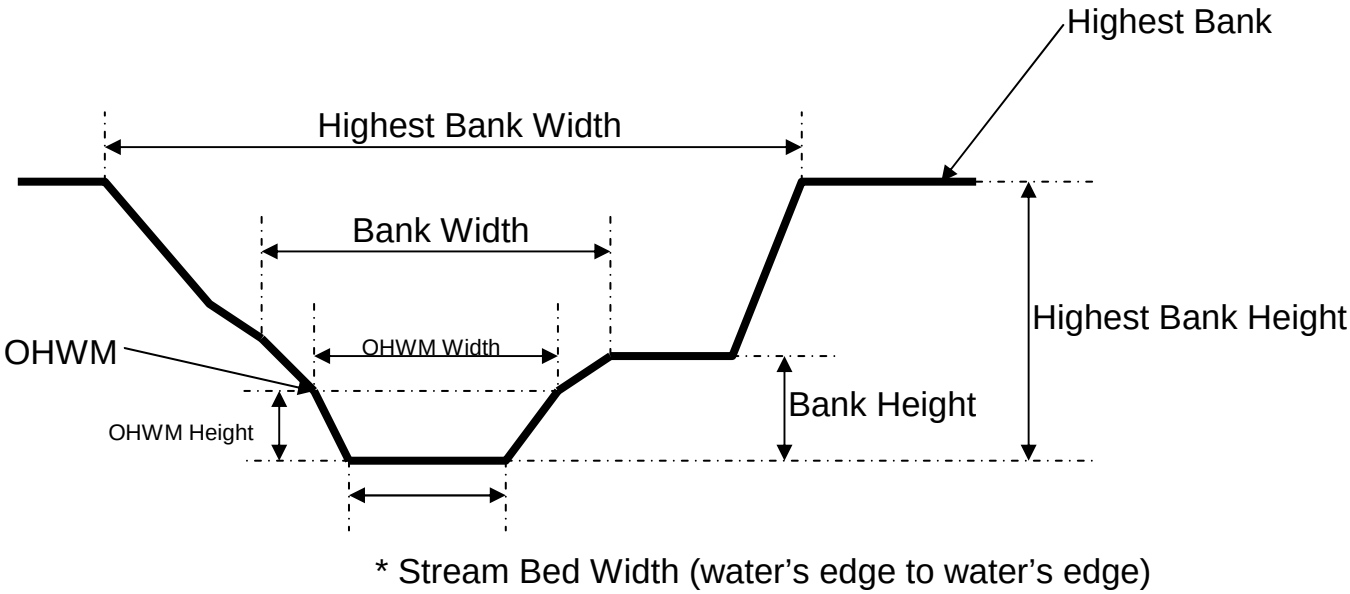
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-003B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 01/30/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.00000000	Height (ft): 1.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

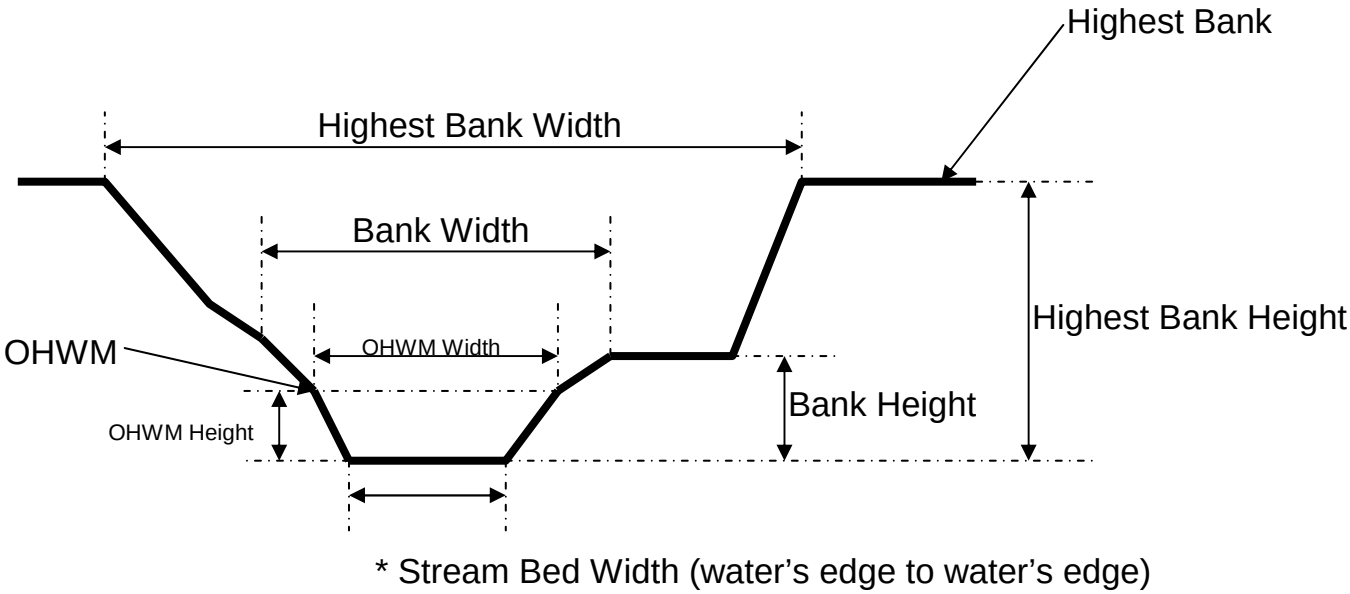
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-003C

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 01/31/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 1.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☑ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

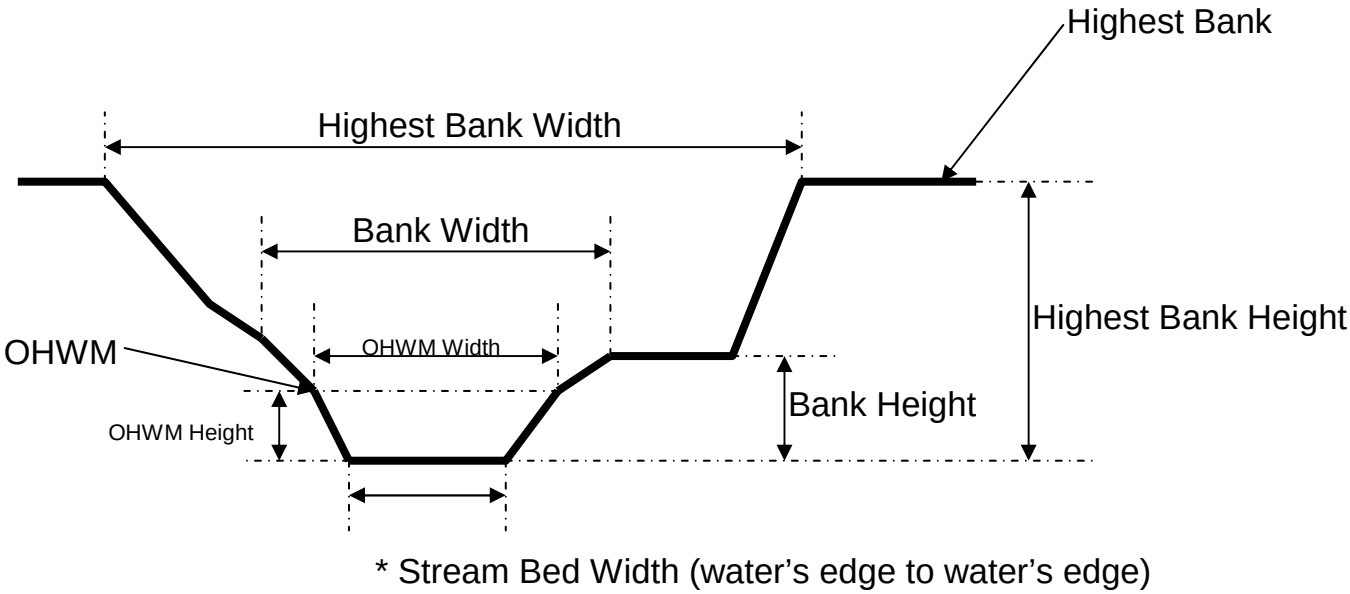
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-003D

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 01/31/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

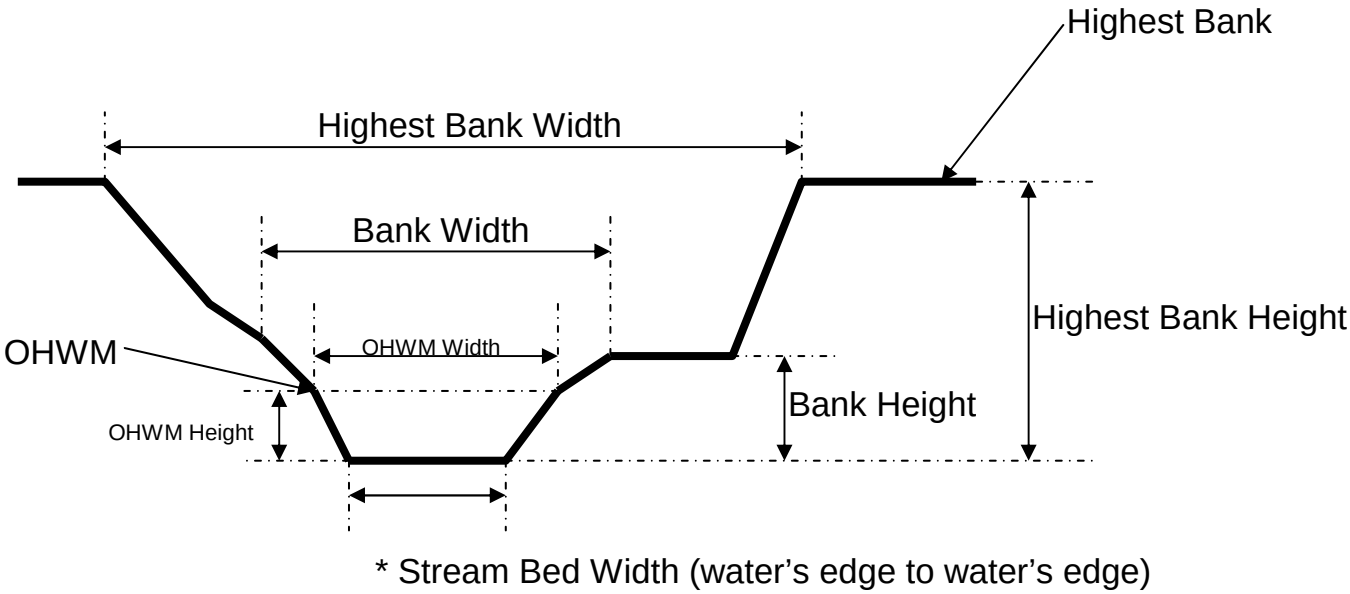
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-008

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/06/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ yes
☐ no
If yes, list:
crayfish

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

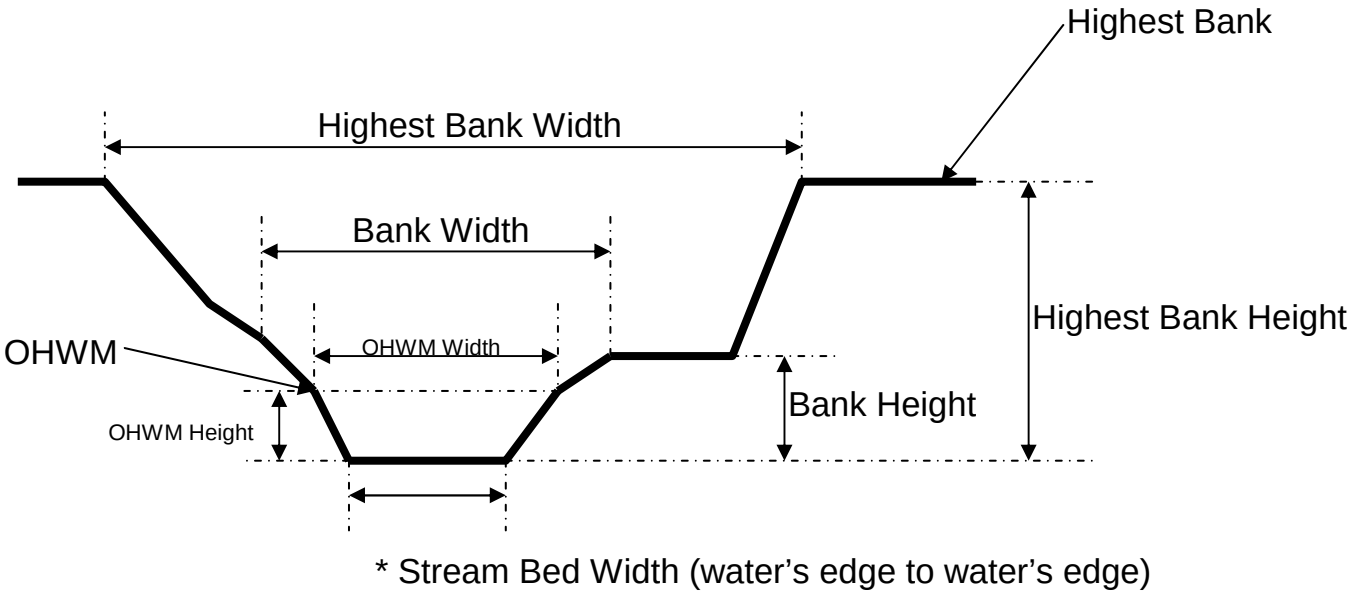
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-008A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/06/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 3.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☑ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ yes
☐ no
If yes, list:
crawfish

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
brown creeper, deer

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

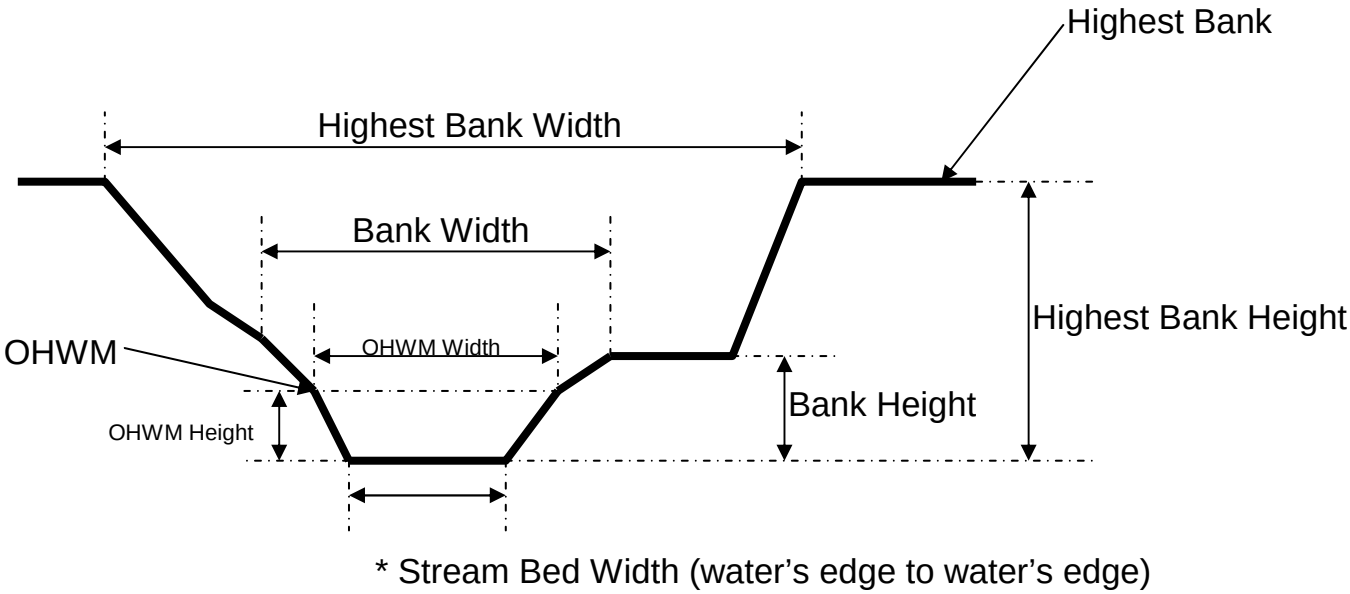
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

sheen pit



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-008B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.00000000	Height (ft): 2.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 12.00000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

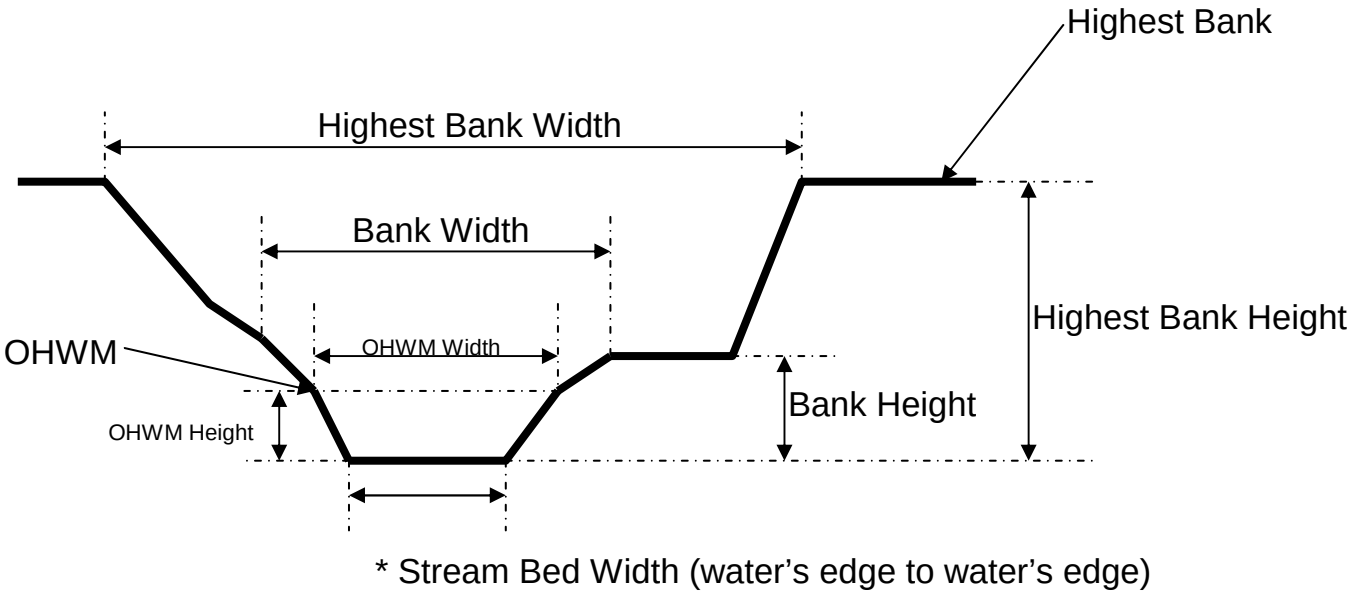
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-008C

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Witherington, Emma

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 1.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.30000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

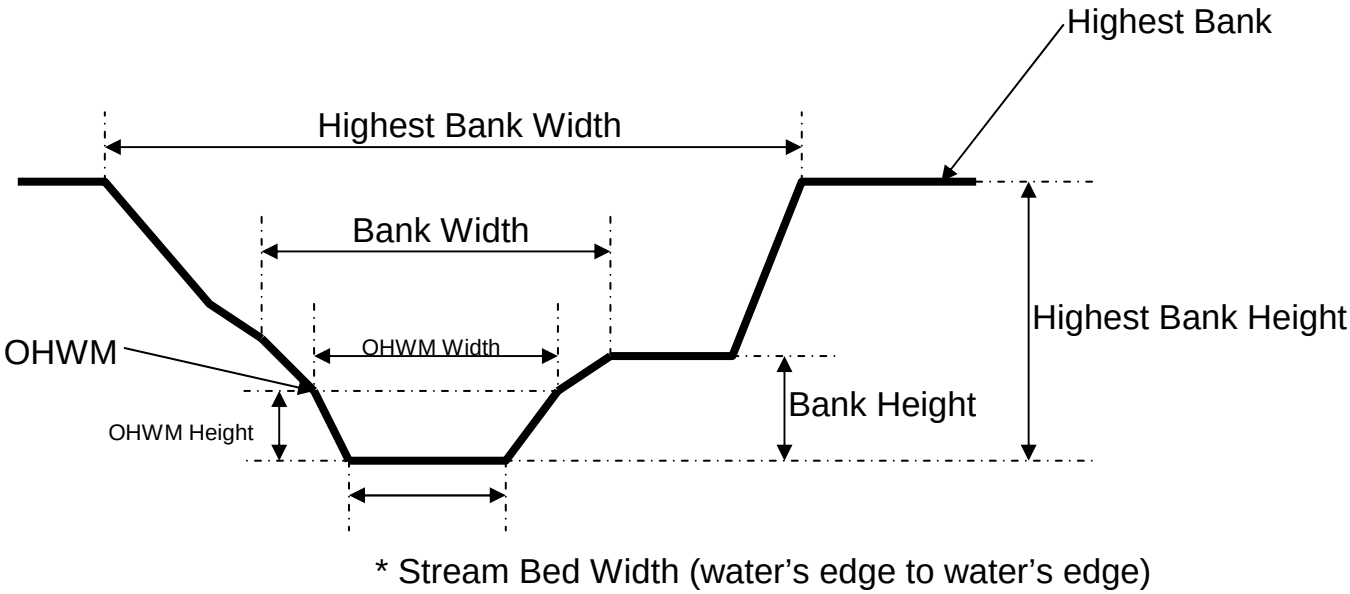
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-01-009

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Overcash, Dana, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

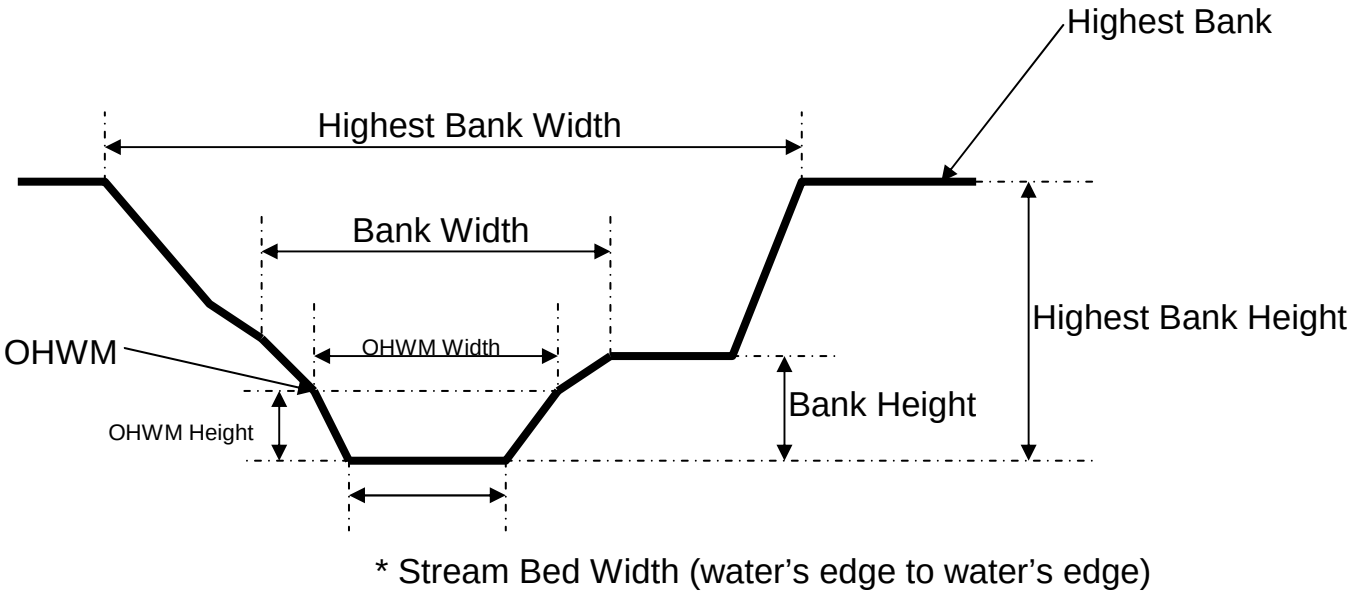
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☑ pools ☐ riffles

Is the stream/tributary:
- ☑ natural
- ☐ manmade – Explain:_____
- ☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-001

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 01/30/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☑ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ **Bedrock**
- ☐ **Gravel**
- ☐ **Sand**
- ☑ **Silt**
- ☐ **Cobbles**
- ☐ **Clay**
- ☐ **Concrete**
- ☐ **Other** _____

Probed Stream Depth
- ☐ **N/A**
- ☑ **0 – 6"**
- ☐ **7 – 12"**
- ☐ **13 – 24"**
- ☐ **25 – 36"**
- ☐ **37"+**

Water Clarity
- ☐ **Clear**
- ☑ **Discolored**
- ☐ **Oily Film**
- ☐ **Other**_____

BANK HEIGHT AND SLOPE

Left Bank*	**Right Bank***
Height (ft): 0.30000000	**Height (ft):** 0.30000000
Slope: ☐ **0-30º (4:1)**	**Slope:** ☐ **0-30º (4:1)**
☑ **31-45º (3:1)**	☑ **31-45º (3:1)**
☐ **46-60º (2:1)**	☐ **46-60º (2:1)**
☐ **61-90º (1:1)**	☐ **61-90º (1:1)**

Height (ft) (OHWM from stream bed): 0.25000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer, raccoon

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ **clear, natural line impressed on bank**
- ☐ **changes in character of soil**
- ☐ **shelving**
- ☐ **vegetation matted down, bent or absent**
- ☐ **leaf litter disturbed or washed away**
- ☐ **sediment deposition**
- ☐ **water staining**
- ☐ **presence of litter and debris**
- ☐ **destruction of terrestrial vegetation**
- ☐ **presence of wrack line**
- ☐ **sediment sorting**
- ☐ **scour**
- ☐ **abrupt change in plant community**
- ☐ **other (list):**_____

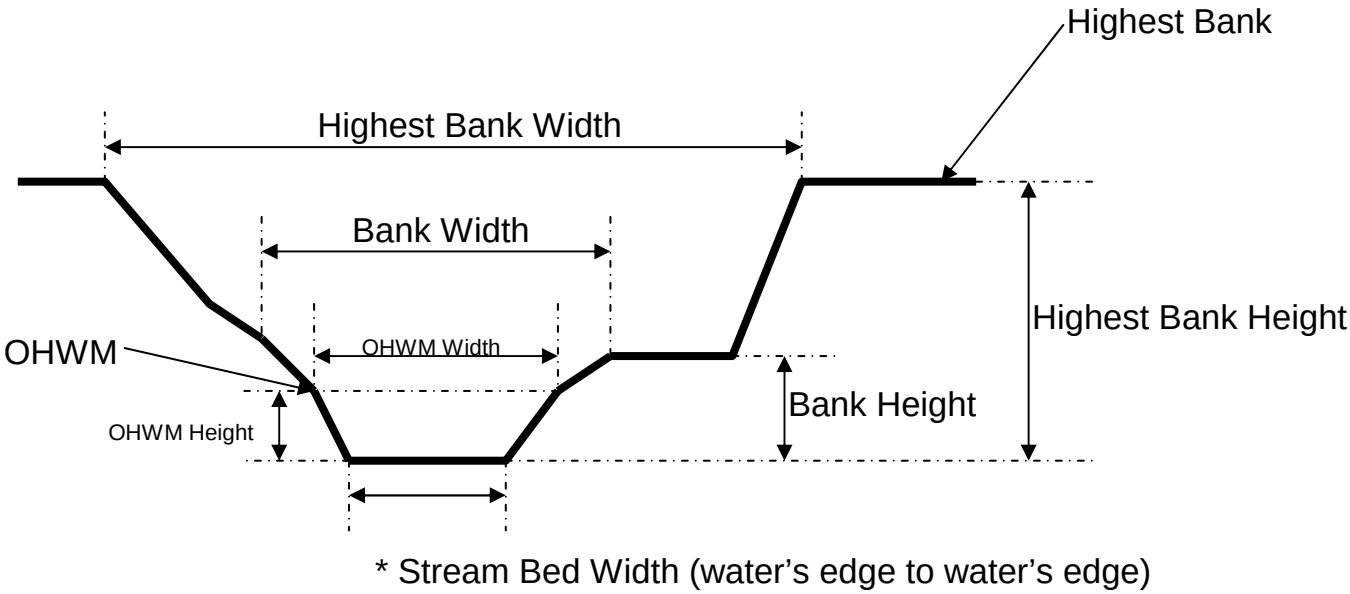
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-001

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 01/31/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.50000000	Height (ft): 0.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.25000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoon

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

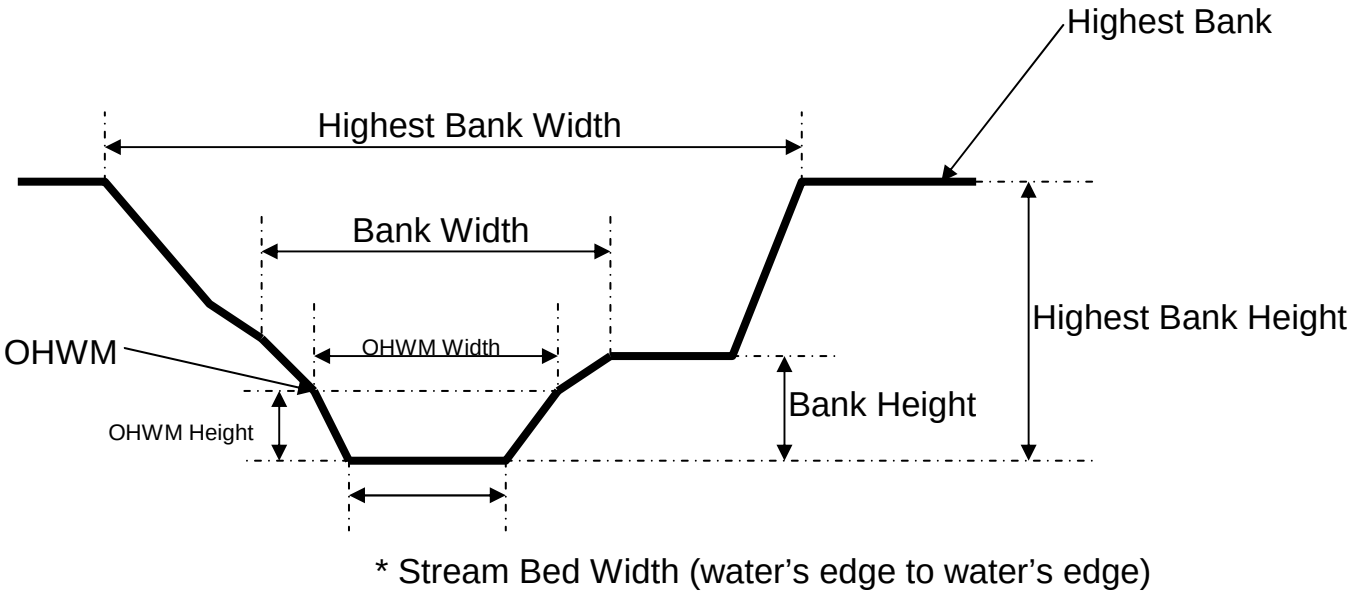
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-011

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/06/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.50000000	Height (ft): 1.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.30000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☑ Other: slightly incised

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoons, rabbits, song birds

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

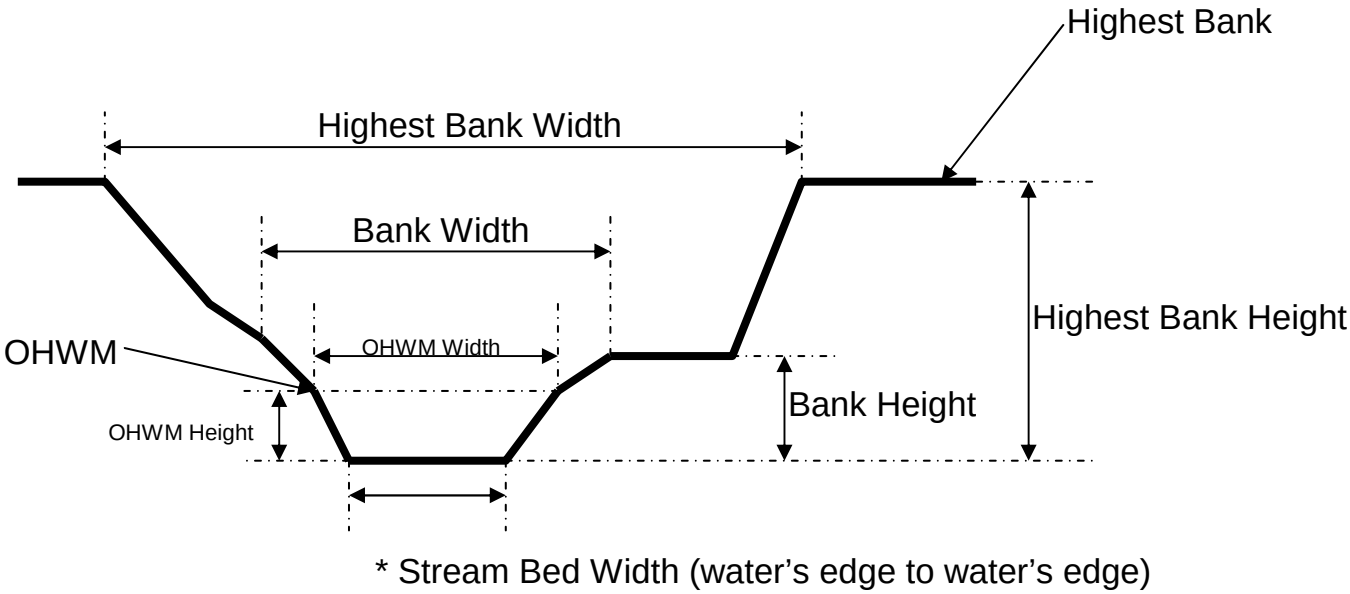
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-012

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/08/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 0.50000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.30000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.30000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.20000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

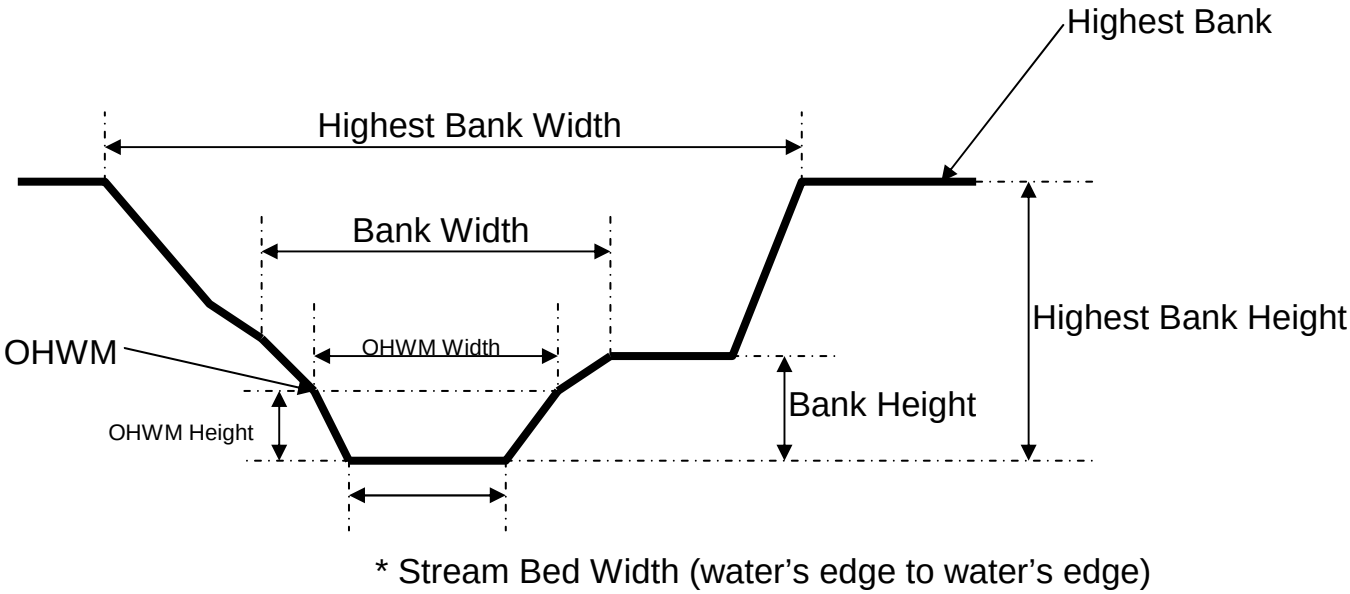
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-013

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/08/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☑ **Perennial** ☐ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 2.50000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.00000000	**Height (ft):** 2.00000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.90000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☑ **Other:** slightly incised

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

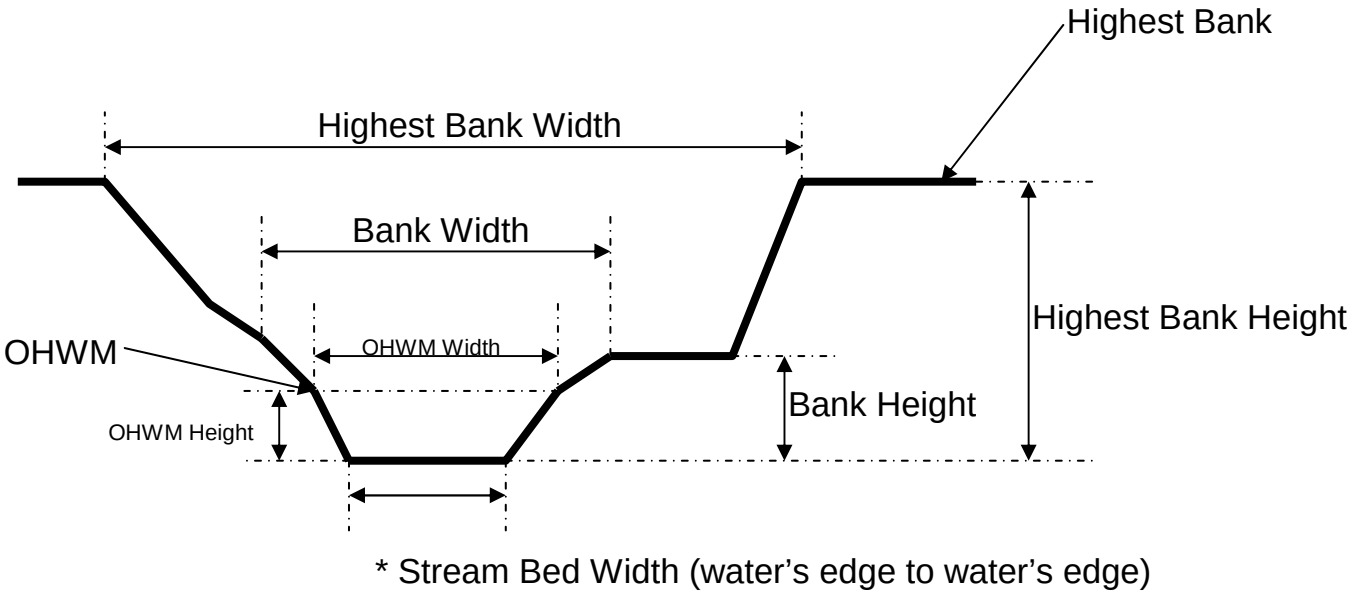
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☑ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-014

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Casey, Justin, Jeter, Nicole

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.80000000	Height (ft): 0.80000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.20000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

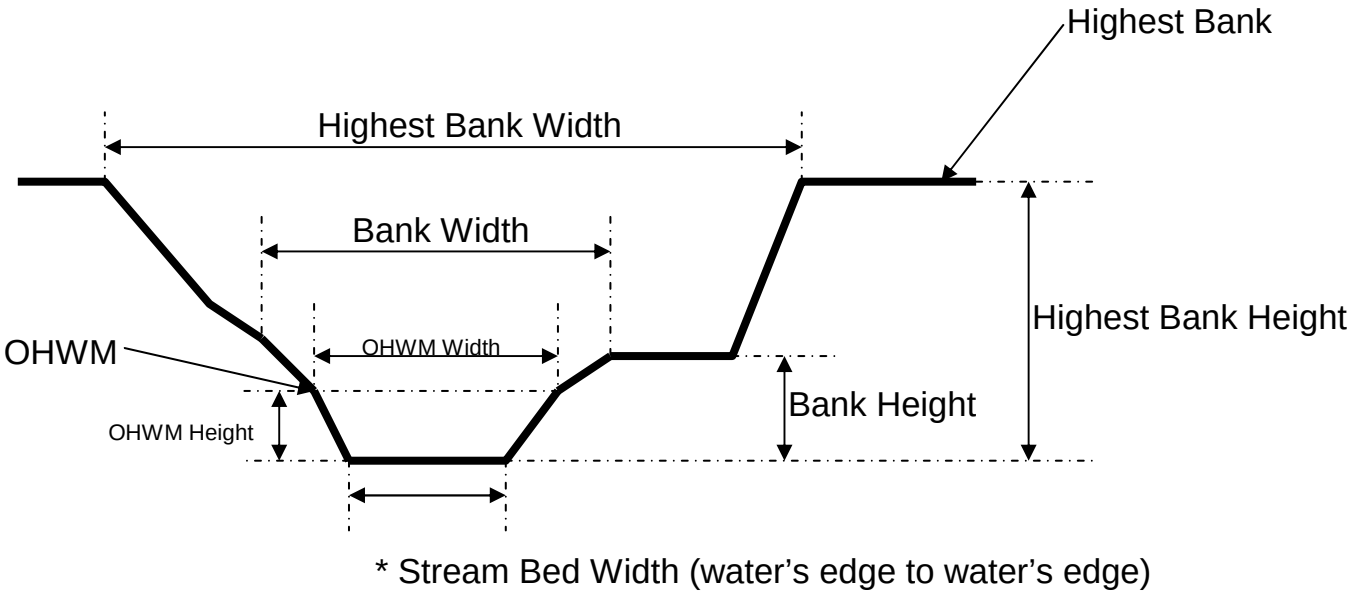
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-02-015

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/10/2015

Stream Type: ☐ **STREAM** ☐ **DITCH/CANAL**

Observers: Casey, Justin,

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☐ **Intermittent** ☑ **Ephemeral**

Stream Flow Direction: SW

Width (ft) (water's edge to water's edge): 2.50000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.50000000	**Height (ft):** 1.50000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☑ **Other:** slightly incised

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☑ **yes**
☐ **no**
If yes, list:
deer, raccoons

Stream has potential for fish presence
☑ **yes**
☐ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

Discontinuous OHWM: ☑ **yes** ☐ **no**

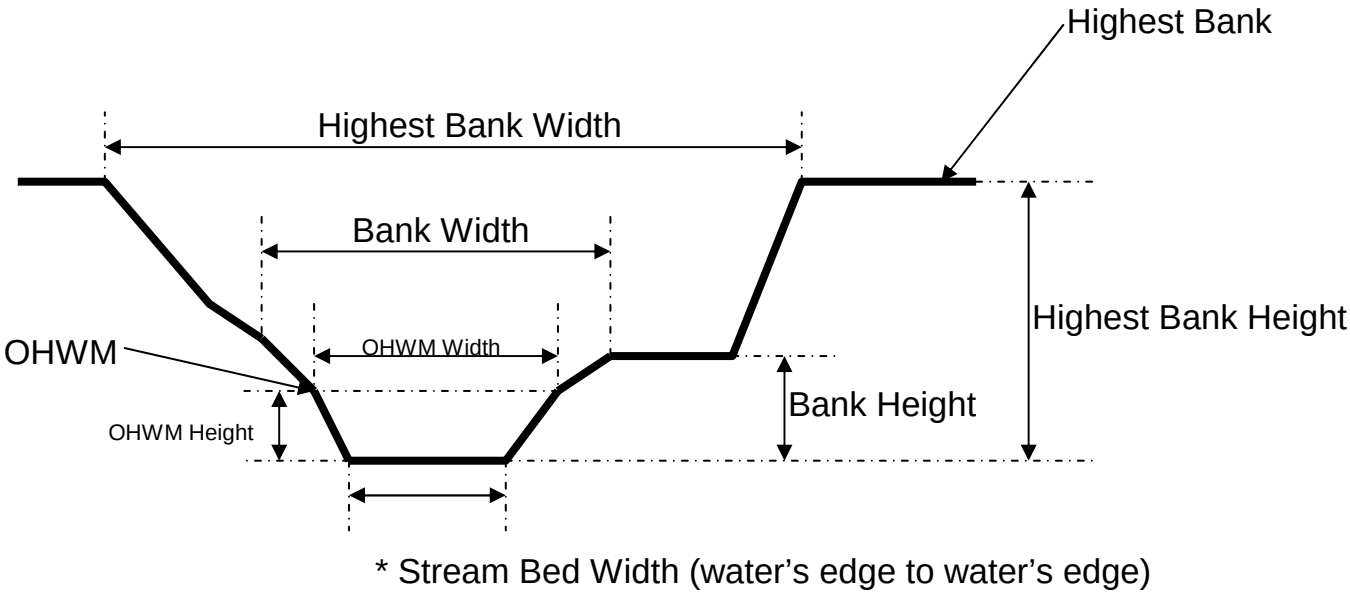
Geometry: ☐ **Meandering** ☑ **Relatively Straight**

Presence of: ☐ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☐ **natural**
☐ **manmade – Explain:**_____
☑ **man-altered – Explain:** appears to be a drainage ditch

NOTES:

this data sheet added at the end of the day.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-001

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 2.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☑ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

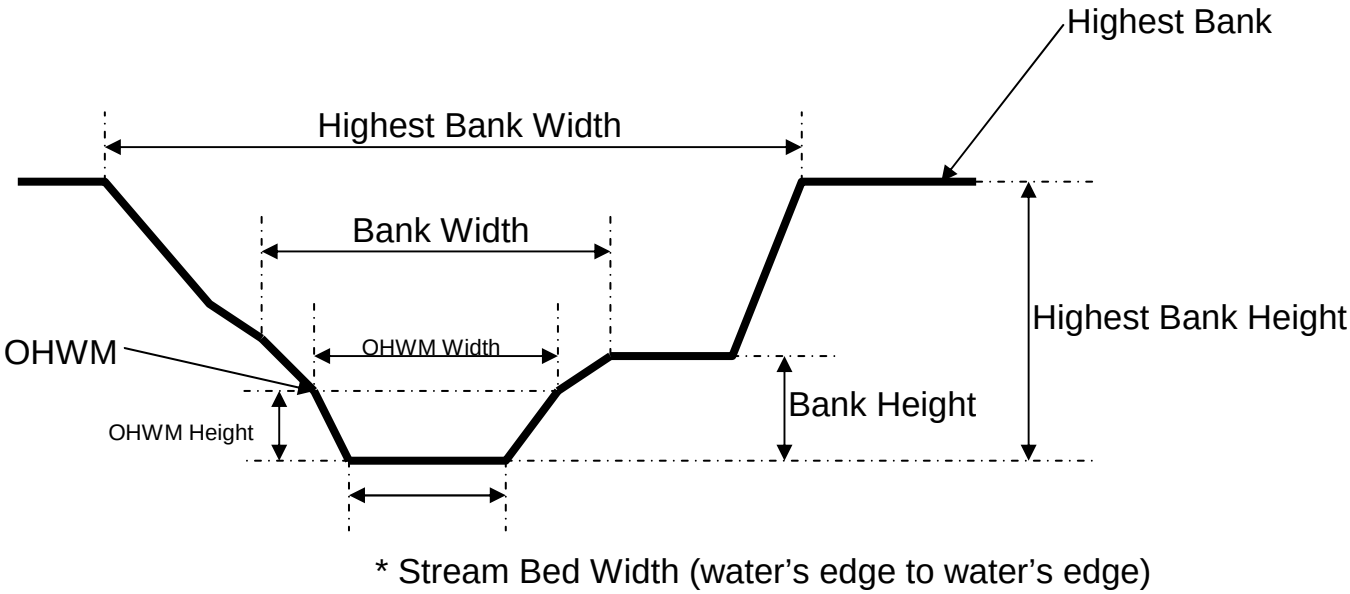
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-001A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: _____

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 1.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 0.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*: _____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*: _____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

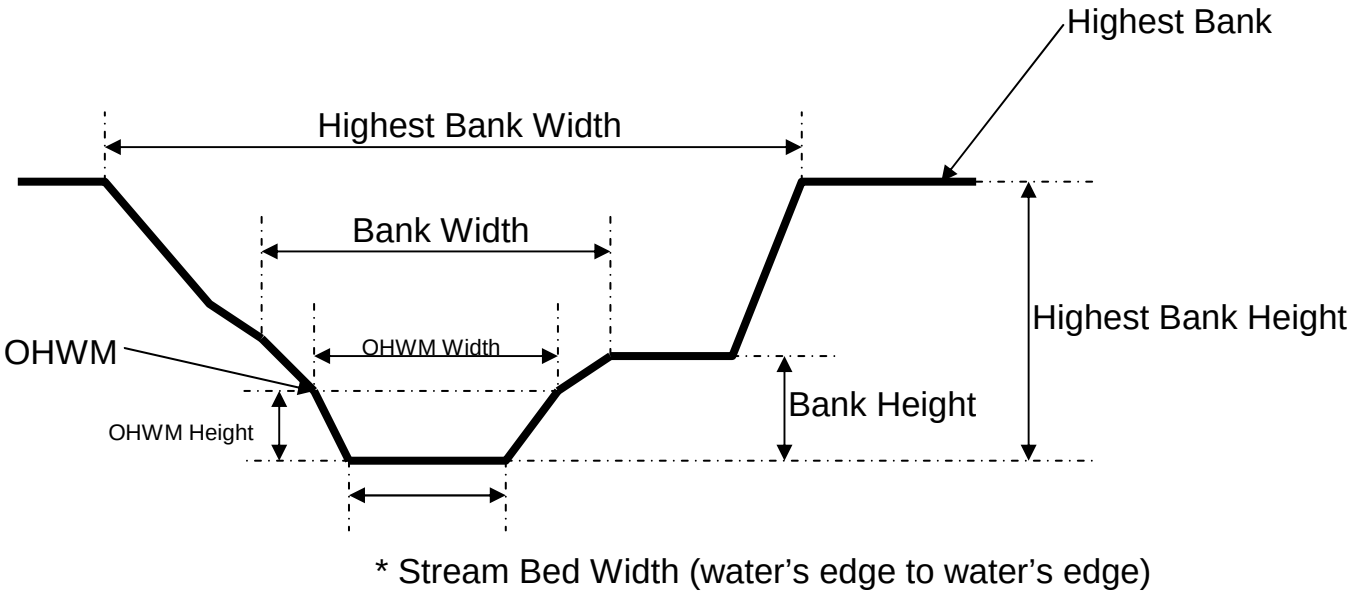
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-001B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.50000000	Height (ft): 0.50000000
Slope: ☑ 0-30º (4:1)	Slope: ☑ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

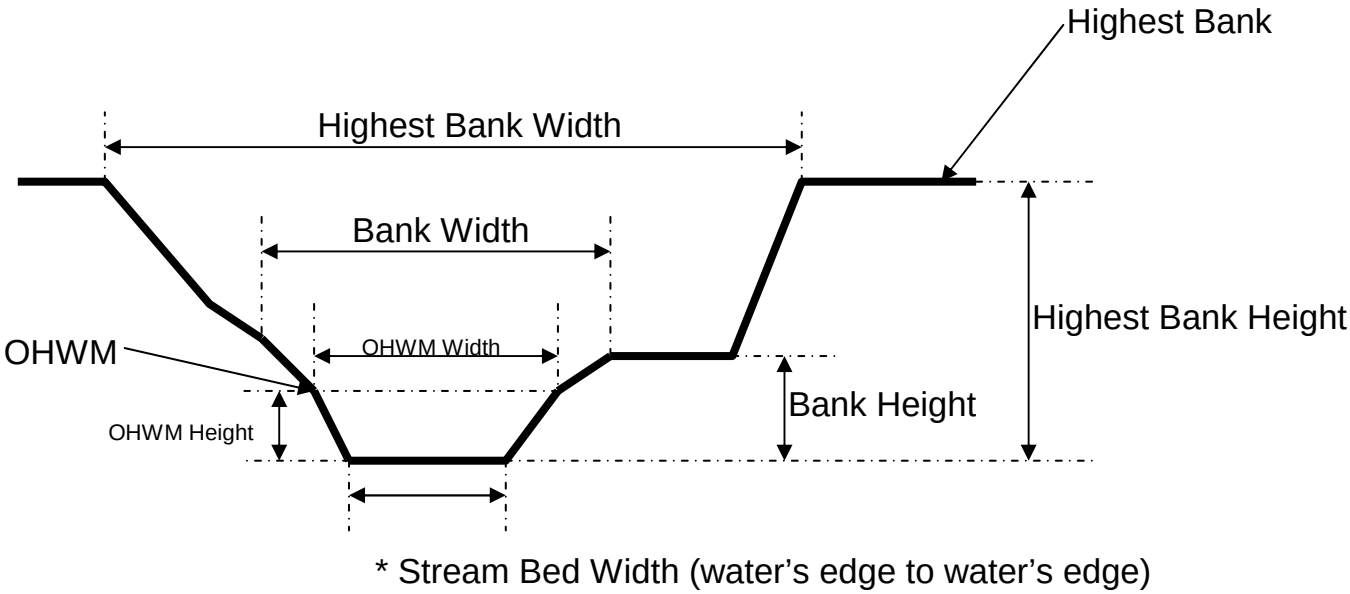
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-001C

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

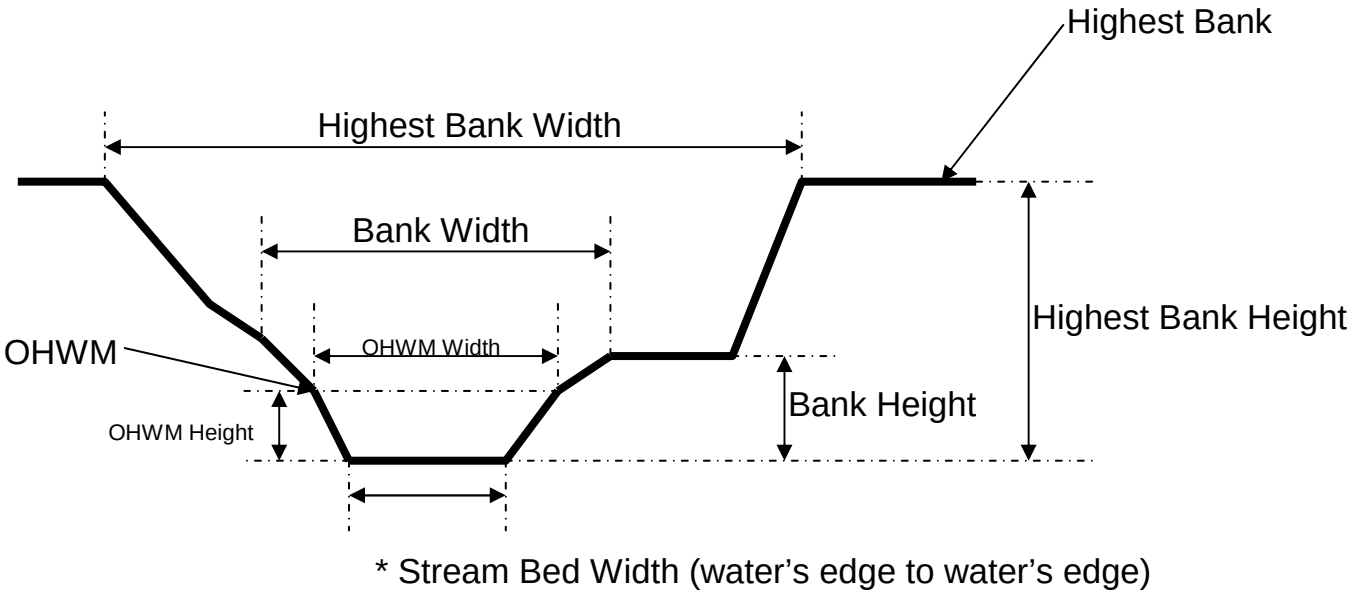
Discontinuous OHWM: ☑ yes ☐ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-002

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☑ Perennial ☐ Intermittent ☐ Ephemeral

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 4.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☐ 0 – 6"
- ☑ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Right Bank*
Height (ft): 5.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.00000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

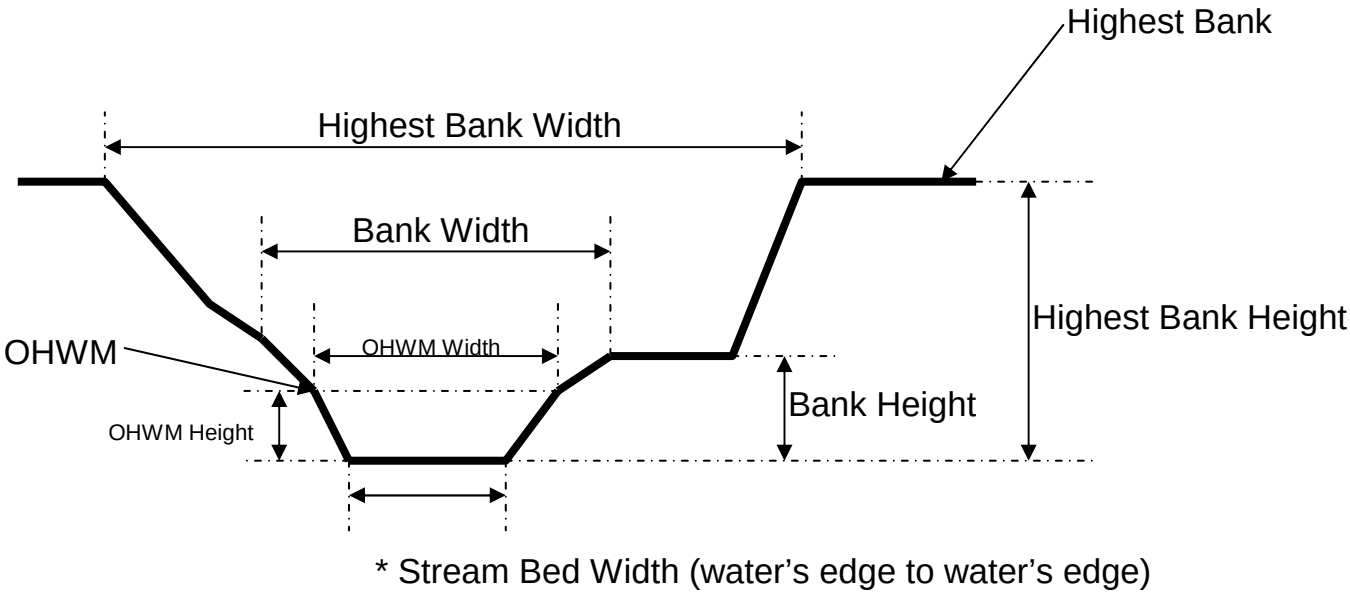
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-002A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/07/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: N

Width (ft) (water's edge to water's edge): 0.70000000

Width (ft) (bank to bank): 1.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.50000000	Height (ft): 0.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.00000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

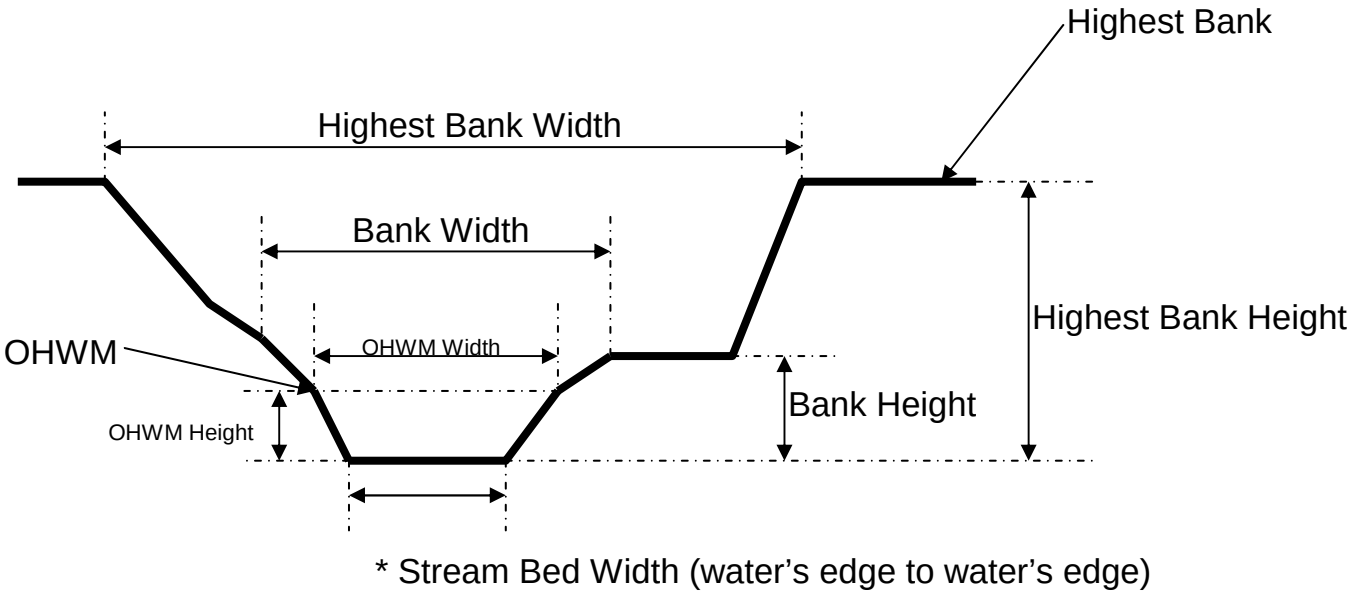
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-003

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/08/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Jeter, Nicole, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.50000000	Height (ft): 1.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

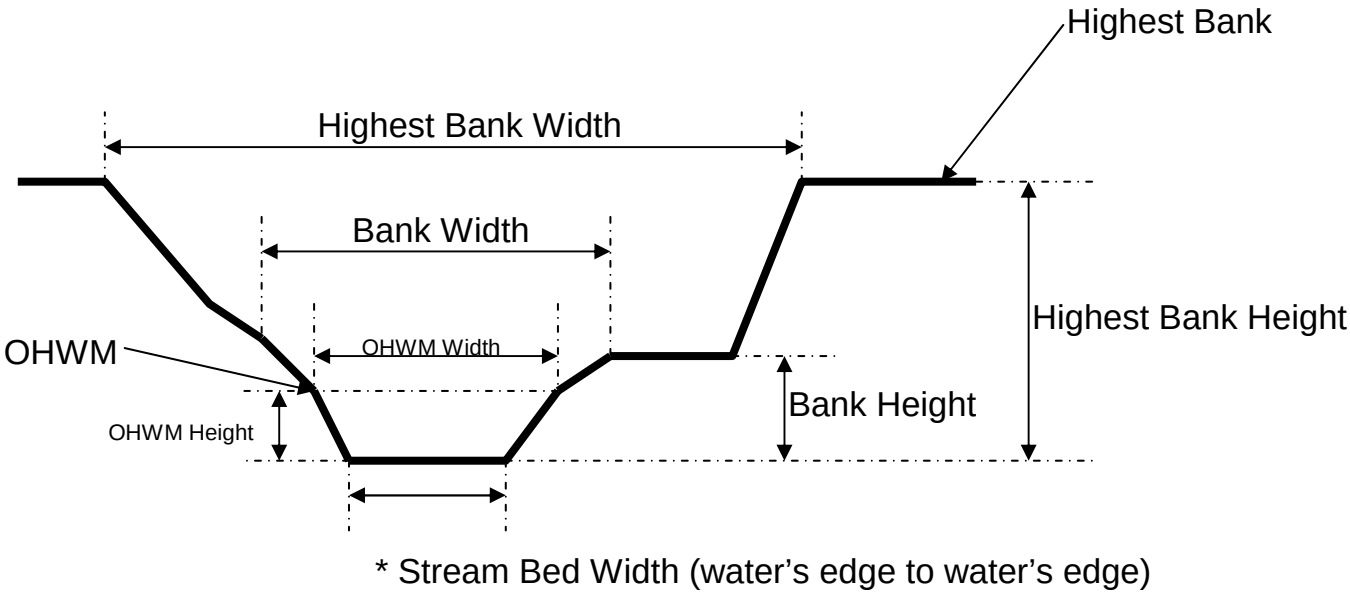
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-003A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/08/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Jeter, Nicole, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 6.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 4.00000000	Height (ft): 4.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☑ yes
☐ no
If yes, list:
water bugs

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☑ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☑ destruction of terrestrial vegetation
- ☑ presence of wrack line
- ☑ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

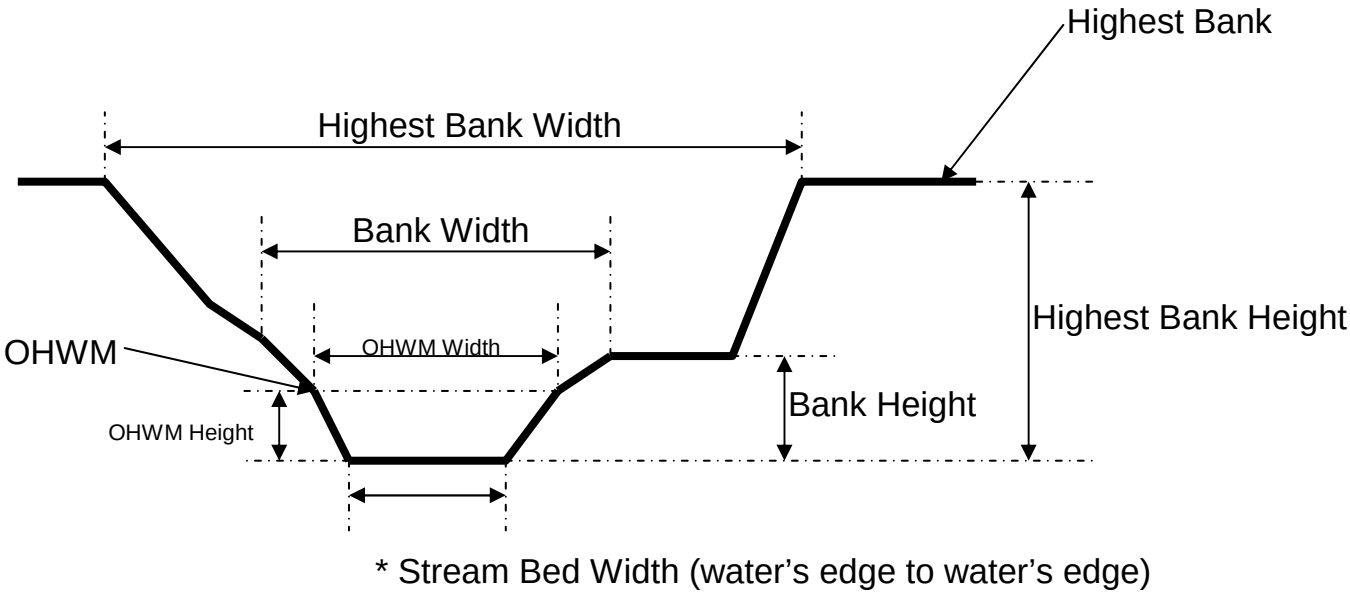
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-003B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/08/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Jeter, Nicole, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: NE

Width (ft) (water's edge to water's edge): 0.50000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.50000000	Height (ft): 2.50000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☑ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

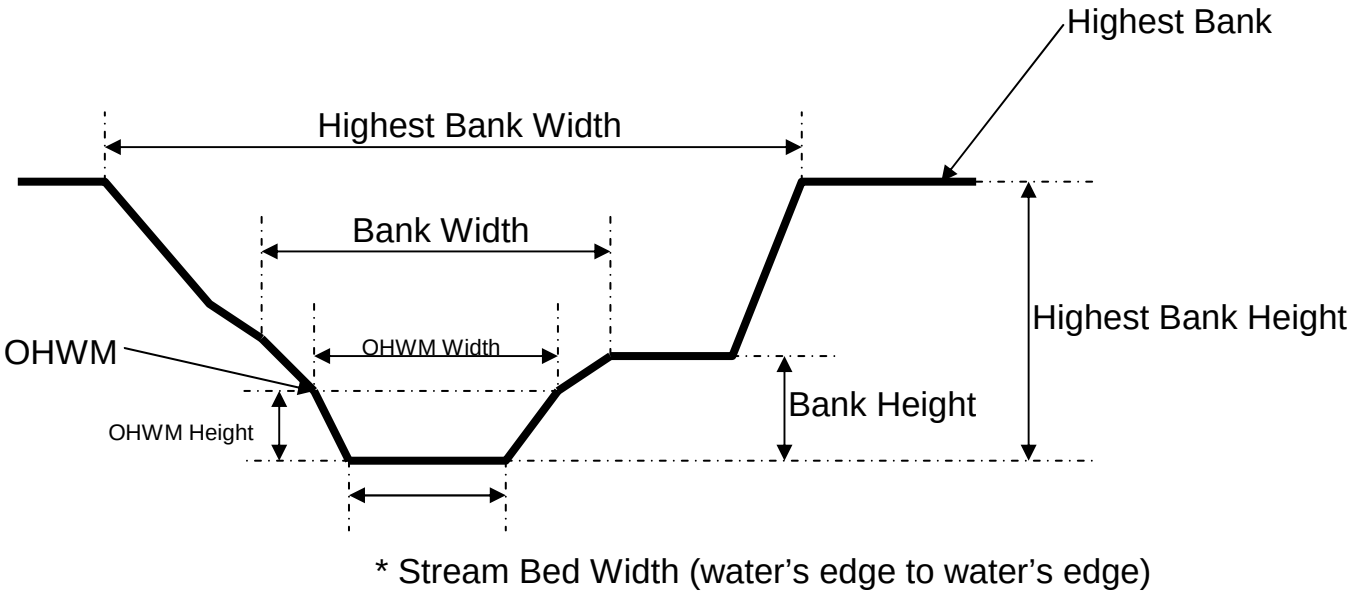
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-003C

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Paul Bollinger

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 0.00000000

Width (ft) (bank to bank): 1.25000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.00000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.25000000
***Direction when facing downstream**

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

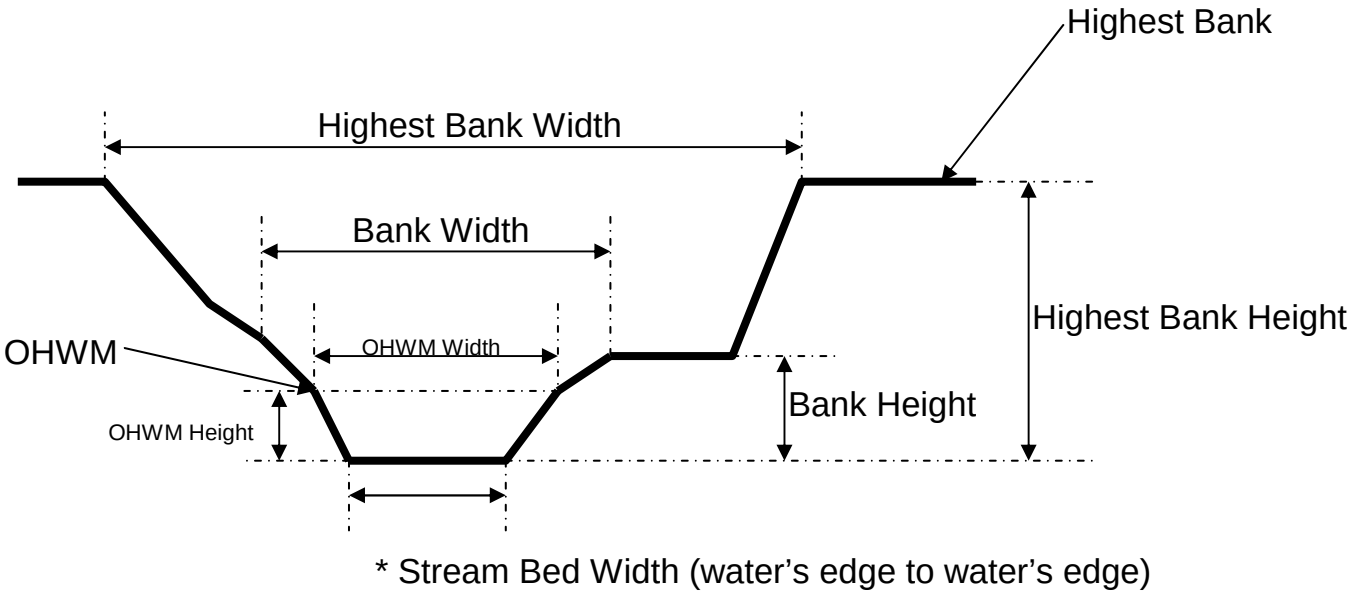
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-004

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/08/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Jeter, Nicole, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 2.00000000

Width (ft) (bank to bank): 3.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 1.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 1.50000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.00000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☑ yes, width (ft): 0.00000000
☐ no
If yes, list :
Carex app.
loblolly pine

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☑ presence of wrack line
- ☐ sediment sorting
- ☑ scour
- ☐ abrupt change in plant community
- ☐ other (list):

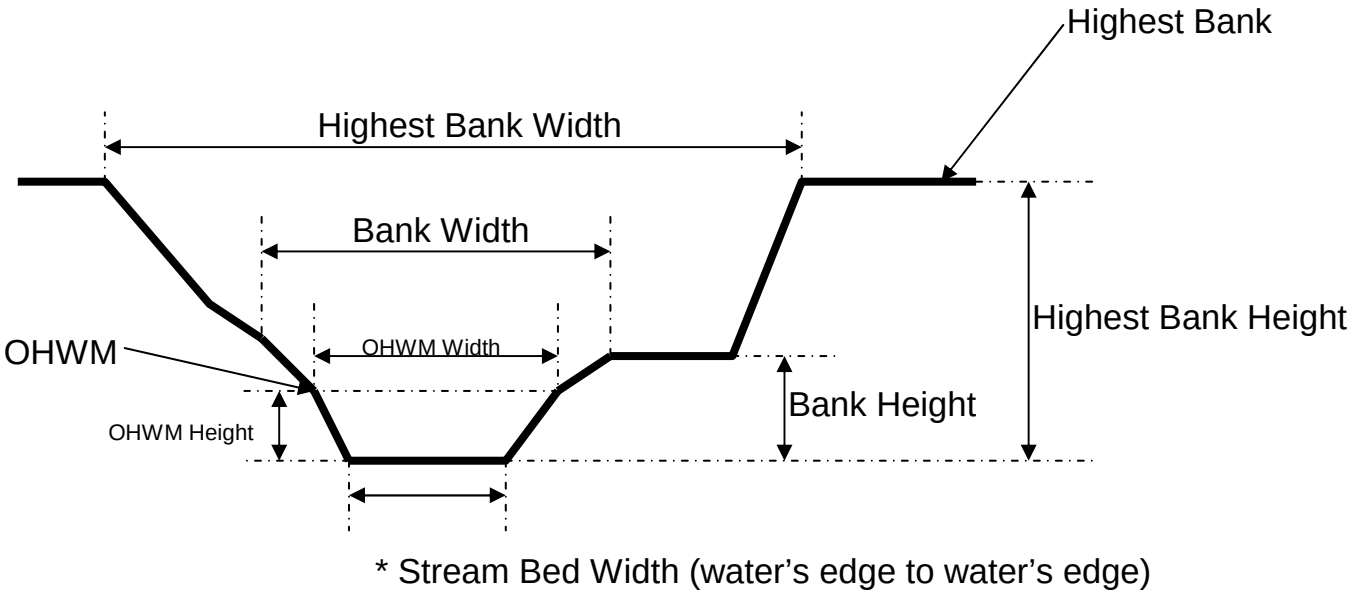
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-004A

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 4.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.50000000

Slope:
- ☑ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

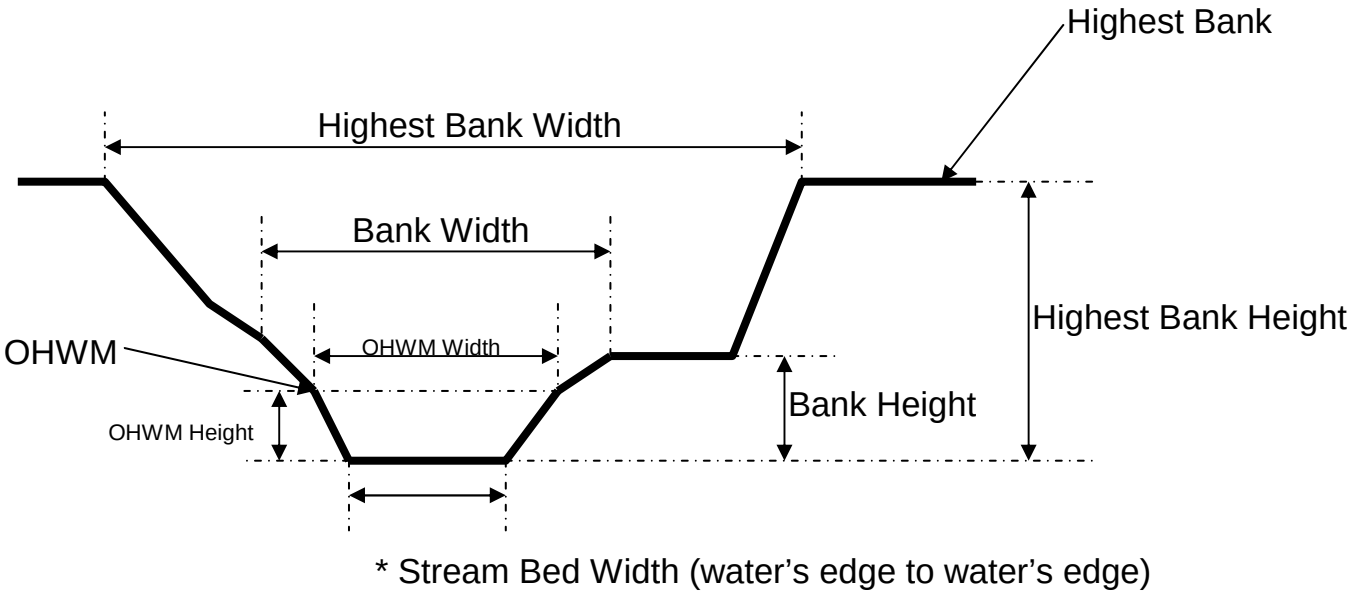
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-004B

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:_____

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 3.00000000

Width (ft) (bank to bank): 5.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.20000000	Height (ft): 0.20000000
Slope: ☑ 0-30º (4:1)	Slope: ☑ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.00000000
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):_____
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID: _____
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

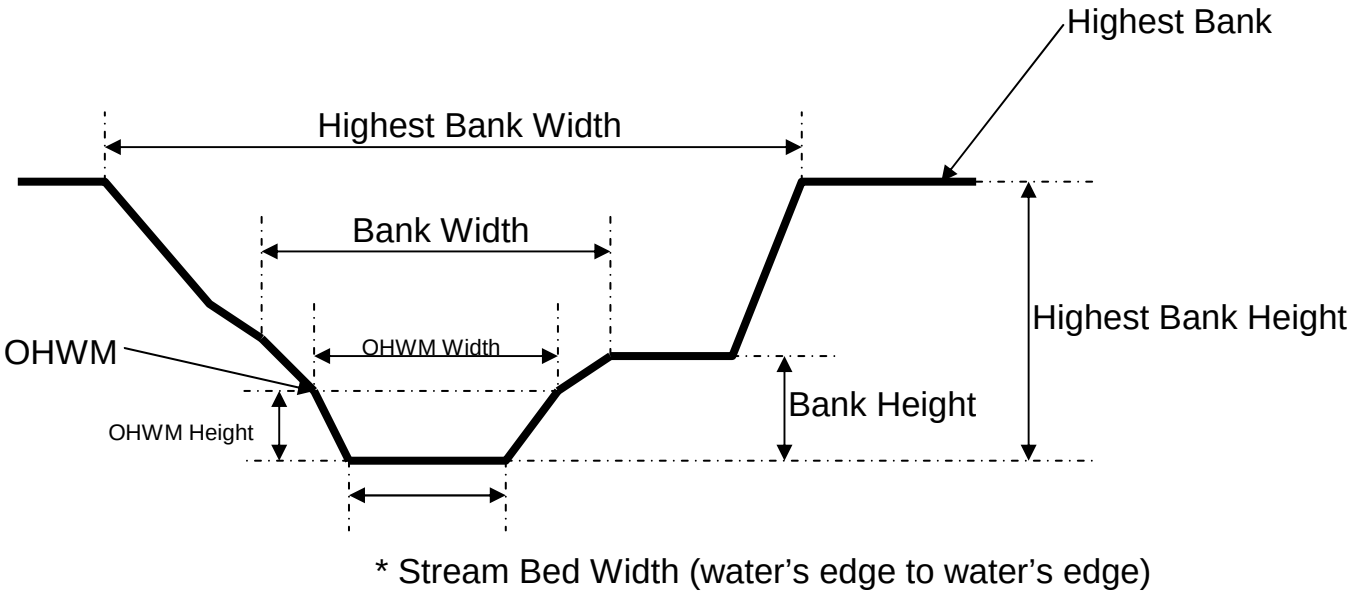
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:_____
☐ man-altered – Explain:_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-005

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/09/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☑ **Intermittent** ☐ **Ephemeral**

Stream Flow Direction: NW

Width (ft) (water's edge to water's edge): 1.50000000

Width (ft) (bank to bank): 2.50000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 4.00000000

Slope:
- ☐ 0-30º (4:1)
- ☐ 31-45º (3:1)
- ☑ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☑ **Sloughing** ☑ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

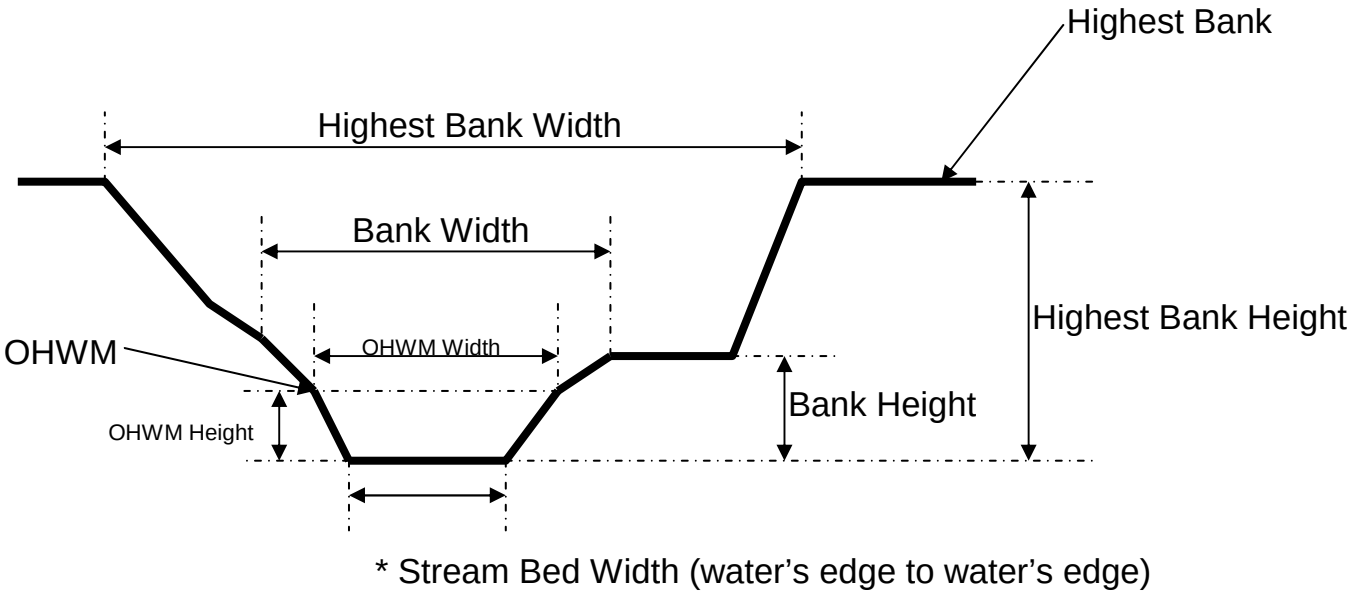
Discontinuous OHWM: ☐ **yes** ☑ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☑ **run** ☑ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-006

STREAM DATA

☐ ROW ☑ Project Facility **STATE** MS
☐ Access Road ☐ Staging/Storage Area **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ UNNAMED ☐ NAMED:

Date: 02/09/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Witherington, Emma, Paul Bollinger

CHARACTERISTICS

Water Present: ☑ yes ☐ no

Flow Type: ☐ Perennial ☑ Intermittent ☐ Ephemeral

Stream Flow Direction: W

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☐ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.00000000	Height (ft): 1.00000000
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☑ 31-45º (3:1)	☑ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☐ Sloughing ☑ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID: ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ no
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☑ yes
☐ no
If yes, list:
spring peeper

Stream has potential for fish presence
☑ yes
☐ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☑ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

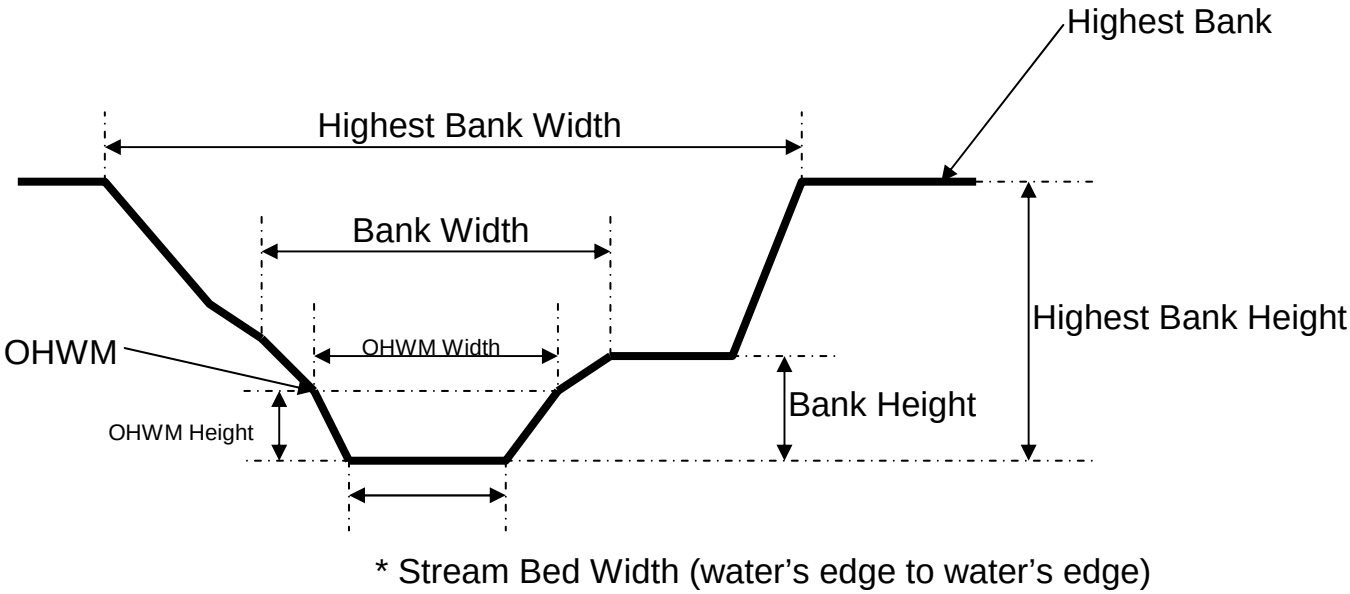
Discontinuous OHWM: ☐ yes ☑ no

Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☑ run ☑ pools ☐ riffles

Is the stream/tributary:
☑ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-007

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/10/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☐ **yes** ☑ **no**

Flow Type: ☐ **Perennial** ☐ **Intermittent** ☑ **Ephemeral**

Stream Flow Direction: E

Width (ft) (water's edge to water's edge): 0.00000000

Width (ft) (bank to bank): 3.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other_____

BANK HEIGHT AND SLOPE

Left Bank*
Height (ft): 0.50000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Right Bank*
Height (ft): 0.50000000

Slope:
- ☐ 0-30º (4:1)
- ☑ 31-45º (3:1)
- ☐ 46-60º (2:1)
- ☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☐ **yes** ☑ **no**

☐ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)
☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

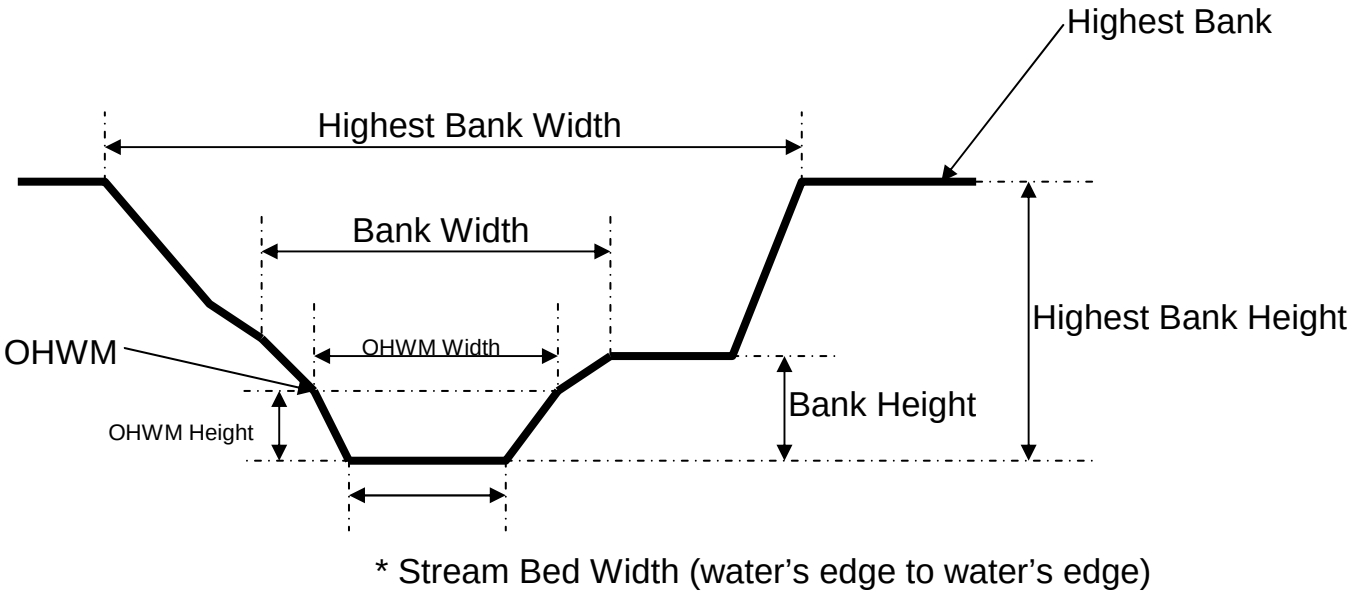
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☐ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS SS-03-008

STREAM DATA

☐ **ROW** ☑ **Project Facility** **STATE** MS
☐ **Access Road** ☐ **Staging/Storage Area** **PROJECT** OLF Joe Williams

County: Kemper

Stream Name: ☑ **UNNAMED** ☐ **NAMED:**_____

Date: 02/10/2015

Stream Type: ☑ **STREAM** ☐ **DITCH/CANAL**

Observers: Witherington, Emma, Bollinger, Paul

CHARACTERISTICS

Water Present: ☑ **yes** ☐ **no**

Flow Type: ☐ **Perennial** ☐ **Intermittent** ☑ **Ephemeral**

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 1.00000000

Width (ft) (bank to bank): 2.00000000
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☐ Sand
- ☑ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other _____

Probed Stream Depth
- ☐ N/A
- ☑ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☑ Clear
- ☐ Discolored
- ☐ Oily Film
- ☐ Other_____

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 1.00000000	**Height (ft):** 1.00000000
Slope: ☐ 0-30º (4:1)	**Slope:** ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☑ 46-60º (2:1)	☑ 46-60º (2:1)
☐ 61-90º (1:1)	☐ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.50000000
***Direction when facing downstream**

Evidence of Erosion: ☑ **yes** ☐ **no**

☑ **Sloughing** ☐ **Undercutting** ☐ **Impact from Cattle**

☐ **Other:**_____

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.00000000

Highest Left Bank Height*: 0.00000000
Highest Left Bank Slope*:_____
Highest Right Bank Height*: 0.00000000
Highest Right Bank Slope*:_____
***Direction when facing downstream**

ASSOCIATED HABITAT

Riparian Vegetation
☐ **yes, list ID:** ψψψψψψψψψψψψψψψψψψψψψψψψψ
☑ **no**
If yes, list:

Width of riparian corridor (ft): 0.00000000

Stream Fringe (5' or less including both banks)

☐ **yes, width (ft):**_____
☑ **no**
If yes, list :

Aquatic Vegetation
☐ **yes**
☑ **no**
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ **yes**
☑ **no**
If yes, list:

Riparian/Terrestrial Organisms
☐ **yes**
☑ **no**
If yes, list:

Stream has potential for fish presence
☐ **yes**
☑ **no**

T&E Species
☐ **yes, list ID:** _____
☑ **no**

OHWM Criteria – Ordinary High Water Mark

- ☐ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☑ shelving
- ☐ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☑ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):_____

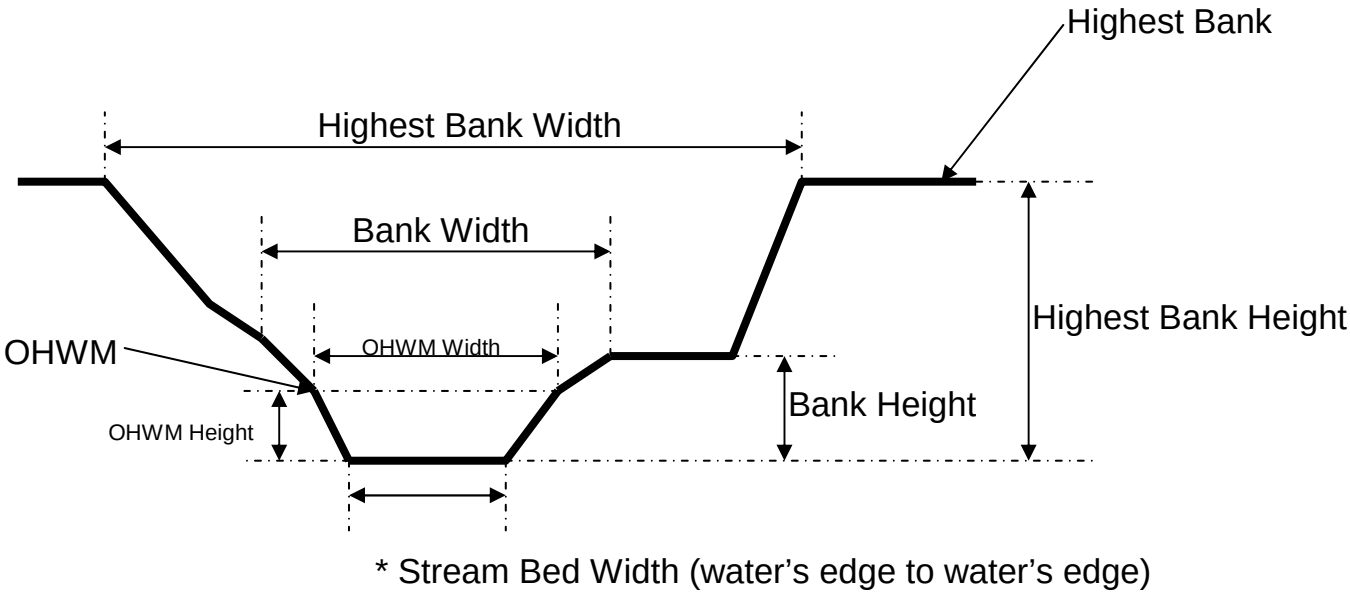
Discontinuous OHWM: ☑ **yes** ☐ **no**

Geometry: ☑ **Meandering** ☐ **Relatively Straight**

Presence of: ☐ **run** ☐ **pools** ☐ **riffles**

Is the stream/tributary:
☑ **natural**
☐ **manmade – Explain:**_____
☐ **man-altered – Explain:**_____

NOTES:



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-009

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT OLF Joe Williams

County: Kemper

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/22/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: S

Width (ft) (water's edge to water's edge): 3.0

Width (ft) (bank to bank): 3.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 2.0	Height (ft): 2.0
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 1.0
*Direction when facing downstream

Evidence of Erosion: ☑ yes ☐ no

☑ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)

Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☑ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☑ water staining
- ☐ presence of litter and debris
- ☑ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

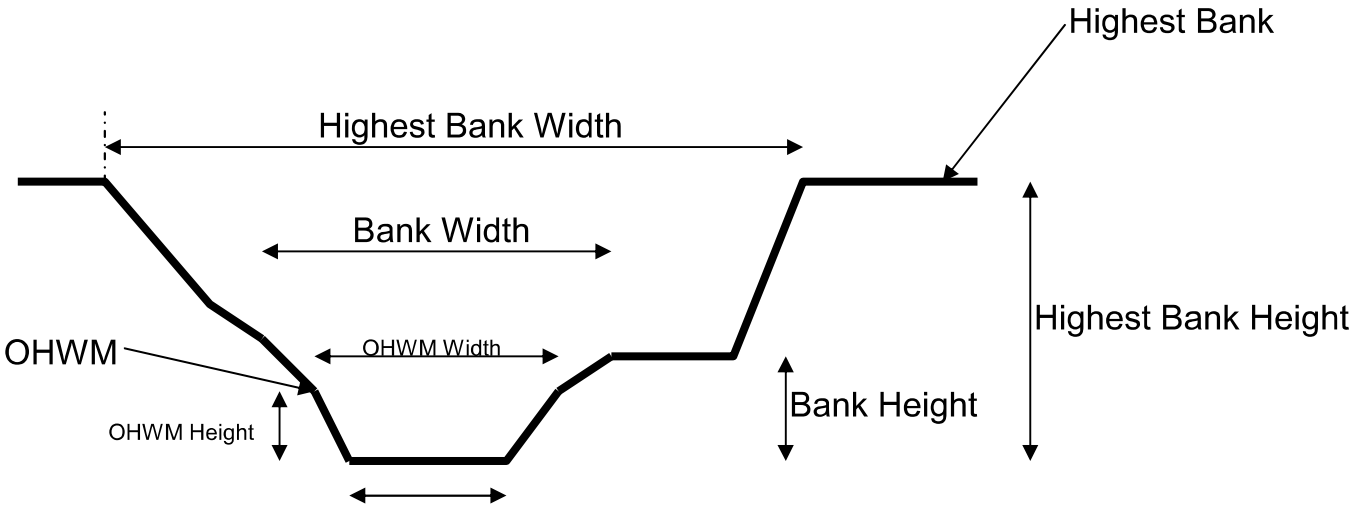
Geometry: ☐ Meandering ☑ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☐ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

area at culvert wider (6ft) likely due to ponding at culvert outflow. in WW-05-006. at Joe Williams NOLF.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

STREAM ID: SS-T05-010

STREAM DATA

☑ ROW ☐ Project Facility STATE MS
☐ Access Road ☐ Staging/Storage Area PROJECT OLF Joe Williams

County: Kemper

Stream Name: ☐ UNNAMED ☑ NAMED: none

Date: 10/22/2015

Stream Type: ☑ STREAM ☐ DITCH/CANAL

Observers: Dutton, Rebecca, Jeter, Nicole

CHARACTERISTICS

Water Present: ☐ yes ☑ no

Flow Type: ☐ Perennial ☐ Intermittent ☑ Ephemeral

Stream Flow Direction: SE

Width (ft) (water's edge to water's edge): 1.5

Width (ft) (bank to bank): 2.0
(above OHWM; use OHWM Criteria below)

CHARACTERISTICS

Substrate Type
- ☐ Bedrock
- ☐ Gravel
- ☑ Sand
- ☐ Silt
- ☐ Cobbles
- ☑ Clay
- ☐ Concrete
- ☐ Other

Probed Stream Depth
- ☑ N/A
- ☐ 0 – 6"
- ☐ 7 – 12"
- ☐ 13 – 24"
- ☐ 25 – 36"
- ☐ 37"+

Water Clarity
- ☐ Clear
- ☐ Discolored
- ☐ Oily Film
- ☑ Other

BANK HEIGHT AND SLOPE

Left Bank*	Right Bank*
Height (ft): 0.5	Height (ft): 0.5
Slope: ☐ 0-30º (4:1)	Slope: ☐ 0-30º (4:1)
☐ 31-45º (3:1)	☐ 31-45º (3:1)
☐ 46-60º (2:1)	☐ 46-60º (2:1)
☑ 61-90º (1:1)	☑ 61-90º (1:1)

Height (ft) (OHWM from stream bed): 0.3
*Direction when facing downstream

Evidence of Erosion: ☐ yes ☑ no

☐ Sloughing ☐ Undercutting ☐ Impact from Cattle

☐ Other:

NOTES for HIGH BANK for Construction (if present)
Width (ft) Highest Bank to Highest Bank: 0.0

Highest Left Bank Height*: 0.0
Highest Left Bank Slope*:
Highest Right Bank Height*: 0.0
Highest Right Bank Slope*:
*Direction when facing downstream

ASSOCIATED HABITAT

Riparian Vegetation
☐ yes, list ID:
☑ no
If yes, list:

Width of riparian corridor (ft): 0.0

Stream Fringe (5' or less including both banks)
☐ yes, width (ft):
☑ no
If yes, list :

Aquatic Vegetation
☐ yes
☑ no
If yes, list:

ASSOCIATED SPECIES

Aquatic Organisms
☐ yes
☑ no
If yes, list:

Riparian/Terrestrial Organisms
☐ yes
☑ no
If yes, list:

Stream has potential for fish presence
☐ yes
☑ no

T&E Species
☐ yes, list ID:
☑ no

OHWM Criteria – Ordinary High Water Mark

- ☑ clear, natural line impressed on bank
- ☐ changes in character of soil
- ☐ shelving
- ☑ vegetation matted down, bent or absent
- ☐ leaf litter disturbed or washed away
- ☐ sediment deposition
- ☐ water staining
- ☐ presence of litter and debris
- ☐ destruction of terrestrial vegetation
- ☐ presence of wrack line
- ☐ sediment sorting
- ☐ scour
- ☐ abrupt change in plant community
- ☐ other (list):

Discontinuous OHWM: ☑ yes ☐ no

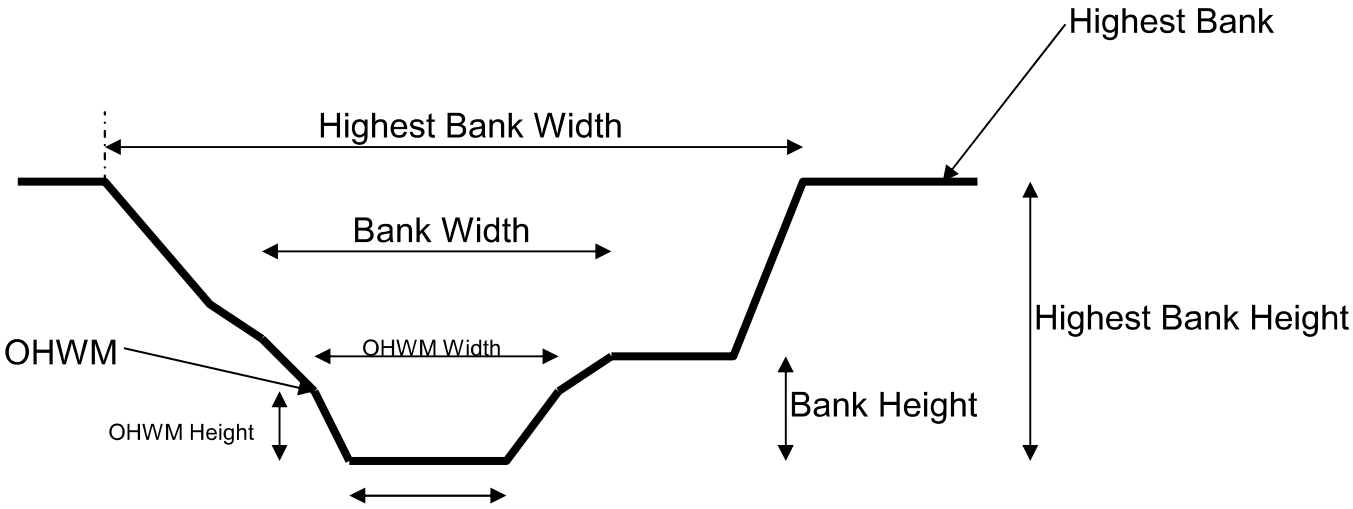
Geometry: ☑ Meandering ☐ Relatively Straight

Presence of: ☐ run ☐ pools ☐ riffles

Is the stream/tributary:
☐ natural
☐ manmade – Explain:
☐ man-altered – Explain:

NOTES:

at Joe Williams NOLF. small ephemeral channel visible on aerial. in WW-05-006.



*Stream bed width is variable

DEFINITIONS:

Perennial: has flowing water year-round during a typical year.

Intermittent: has flowing water during certain times of the year, when groundwater provides water for stream flow.

Ephemeral: has flowing water only during, and for a short duration after, precipitation events in a typical year.

Run: A reach of stream characterized by fast flowing low turbulence water.

Riffle: A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.

Pool: A reach of stream that is characterized by deep low velocity water and a smooth surface.

B-3 NOLF Joe Williams Wetland Photos

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WW-T01-004-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland is in a depressional area, fed via runoff from airfield, drained via SS-T01-003d and has additional drains within the wetland boundary. This wetland functions as wildlife habitat, nutrient removal, and storm-water retention.



WW-T01-004-U1. Photo taken facing south, showing the upland soil pit.



WW-T01-005-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland continues off site to a larger wetland to the south, and functions as storm-water retention and wildlife habitat.



WW-T01-005-U1. Photo taken facing north, showing the upland soil pit.



WW-T01-006-W1. Photo taken facing north-northwest, showing the upland soil pit. This PFO wetland continues off parcel to the south and functions as storm-water retention. The area was previously logged, so dominant vegetation is pine saplings. There also appeared to be backflow from the off-site wetland.



WW-T01-006-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T01-007-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland is adjacent to SS-T01-003 in a depression area at the base of a slope. Inflow is via groundwater, overland sheet-flow, and precipitation with outflow via SS-T01-003. This wetland functions as wildlife habitat and storm-water retention.



WW-T01-007-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-008-W1. Photo taken facing west, showing the wetland soil pit. This large PFO wetland is at the base slope of several hills, and is associated with SS-T01-002 and SS-T01-003, with associated tributaries. This wetland functions as wildlife habitat, storm-water retention, flood protection, and nutrient removal.



WW-T01-008-U1. Photo taken facing east, showing the upland soil pit.



WW-T01-014-W1. Photo taken facing northwest, showing the wetland soil pit. This PFO wetland is fed via groundwater over-land sheet-flow and an uphill hydrologic feature. It is drained via SS-T01-008, and functions as both wildlife habitat and storm-water retention.



WW-T01-014-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T01-015-W1. Photo taken facing southeast, showing the wetland soil pit. This is a small PFO wetland at the base of a levee in HY-T02-002. This wetland is fed via the hydrologic feature and groundwater, and is drained via SS-T01-008A.



WW-T01-015-U1. Photo taken facing south, showing the upland soil pit.



WW-T01-016-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland is a small depression, fed via SS-T01-008c, ground water, and over-land sheet-flow. The wetland is drained via SS-T01-008c, and functions as a wildlife habitat.



WW-T01-016-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-017-W1. Photo taken facing southwest, showing the wetland soil pit. This large PFO is associated with SS-T01-008 and collects over-land sheet-flow from the access road and runway. The wetland functions as storm-water retention, and wildlife habitat.



WW-T01-017-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T01-018-W1. Photo taken facing northeast, showing the wetland soil pit. This PFO wetland is at a valley between hillslopes. Inflow comes from groundwater and over-land sheet-flow, and is drained via SS-T01-008c into HY-T01-001. This wetland functions as storm-water retention and wildlife habitat.



WW-T01-018-U1. Photo taken facing west, showing the upland soil pit.



WW-T01-019-W1. Photo taken facing southeast, showing the wetland soil pit. This PEM/PSS wetland is in a previously logged area (approximately 4 years ago). The wet areas are due to divots from logging equipment, and water is from precipitation and over-land sheet-flow.



WW-T01-019-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T01-020-W1. Photo taken facing west, showing the wetland soil pit. This PFO wetland is fed and drained by SS-T01-009.



WW-T01-020-U1. Photo taken facing east, showing the upland soil pit.



WW-T01-021-W1. Photo taken facing northeast, showing the wetland soil pit. This hardwood PFO wetland is fed and drained by SS-T01-013B and SS-T01-013D, and has standing water.



WW-T01-021-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T01-022-W1. Photo taken facing northeast, showing the wetland soil pit. This is a small PEM wetland, running off the property boundary.



WW-T01-022-U1. Photo taken facing south, showing the upland soil pit.



WW-T02-002-W1. Photo taken facing east, showing the wetland soil pit. This wetland is an intermittent stream with adjacent floodplain. Sweetgum and *Quercus phellos* (willow oak) are the dominant canopy with dense sapling/shrub layer and *Smilax sp* (greenbrier).



WW-T02-002-U1. Photo taken facing west, showing the upland soil pit.



WW-T02-002-W2. Photo taken facing east, showing the second wetland soil pit. The wetland type changes from PFO to PSS dominated by *Cephalanthus occidentalis* (button bush) with a narrow fringe of PFO dominated by sweet gum. The area appears to be an old pond with evidence of an old levee and road at the southern end. The levee has been breached.



WW-T02-002-U2. Photo taken facing west, showing the upland soil pit. Upland area dominated by planted Loblolly pine.



WW-T02-002-W3. Photo taken facing east, showing the third wetland soil pit. The wetland changes from PSS to PEM in the drainage-way of a planted pine area. Between PSS and the main PEM area, there is a narrow maintained row with *Carex* sp (sedge)., *Juncus* sp. (rush), *Lycopodium* (club moss), and *Polygonum* sp (knotweed). The main PEM wetland is dominated by *Saccharum giganteum* (sugar cane plume grass) and *Scirpus cyperinus* (woolgrass).



WW-T02-003-W1. Photo taken facing northwest, showing the wetland soil pit. This wetland is PFO dominated by willow oak, loblolly pine, and *Quercus nigra* (water oak).



WW-T02-003-U1. Photo taken facing southeast, showing the upland soil pit. The upland area separates wetland and SS-T01-003, with a slight ridge dominated by *Ligustrum sinense* (Chinese privet).



WW-T02-004-W1. Photo taken facing southeast, showing the wetland soil pit. The wetland area is an old man-made pond with a breached levee on the east end. There is approximately 800 square feet of open water with a fringe of button bush, and backwater on the north end of the PFO.



WW-T02-004-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T02-005-W1. Photo taken facing west, showing the wetland soil pit. This wetland is a man-made pond with a levee that doesn't appear breached, but is no longer functioning. Water level is approximately 4 in lower than the levee should hold. Open water is approximately 200 sq. ft surrounded by a 50 ft collar of buttonbush in standing water and 100 ft of PFO in the backwater of the old pond.



WW-T02-005-U1. Photo taken facing northeast, showing the upland soil pit.



WW-T02-012-W1. Photo taken facing north-northeast, showing the wetland soil pit. This is a seep/spring near the top of SS-T02-011, with approximately 6-8 ft tall loblolly pine and a dense wetland herbaceous layer.



WW-T02-012-U1. Photo taken facing south-southwest, showing the upland soil pit. Surrounding the pit are mature loblolly pine with 6-8 ftt tall pine with understory of *Rubus* sp.



WW-T02-013-W1. Photo taken facing northeast, showing the wetland soil pit. This depressional wetland is at the property/project boundary with a stock pond to the north off the property/project area.



WW-T02-013-U1. Photo taken facing southwest, showing the upland soil pit.



WW-T02-014-W1. Photo taken facing west, showing the wetland soil pit. This PSS wetland has half herbaceous and half immature loblolly pine approximately 8 ft tall.



WW-T02-014-U1. Photo taken facing southeast, showing the upland soil pit.



WW-T02-015-W1. Photo taken facing south, showing the wetland soil pit. This is a seep wetland below levee to HY-T02-005.



WW-T02-015-U1. Photo taken facing north, showing the upland soil pit.



WW-T02-016-W1. Photo taken facing north, showing the wetland soil pit. This PSS wetland is along a drainage-way.



WW-T02-016-U1. Photo taken facing south, showing the upland soil pit.



WW-T02-017-W1. Photo taken facing west-northwest, showing the wetland soil pit. This wetland is a seep slope PSS with herbaceous and pine vegetation.



WW-T02-017-U1. Photo taken facing northeast showing the upland soil pit.



WW-T02-018-W1. Photo taken facing south, showing the wetland soil pit. This is a depressional, shallow ponded PEM, connected to WW-T02-016 by a culvert.



WW-T02-018-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T03-001-W1. Photo taken facing west, showing the wetland soil pit.



WW-T03-001-U1. Photo taken facing south, showing the upland soil pit.



WW-T03-002-W1. Photo taken facing northwest, showing the wetland soil pit.



WW-T03-002-U1. Photo taken facing east, showing the upland soil pit.



WW-T03-003-W1. Photo taken facing southeast, showing the wetland soil pit. This stream feeds SS-T03-001C.



WW-T03-003-U1. Photo taken facing north, showing the upland soil pit.



WW-T03-004-W1. Photo taken facing northwest, showing the wetland soil pit.



WW-T03-004-U1. Photo taken facing northwest, showing the upland soil pit.



WW-T03-005-W1. Photo taken facing south, showing the wetland soil pit.



WW-T03-005-U1. Photo taken facing north, showing the upland soil pit.



WW-T03-006-W1. Photo taken facing northeast, showing the wetland soil pit. SS-T03-005 ends in this wetland, and there are ruts within the wetland vegetation that are approximately 6 ft wide by 30 ft long, with 0-12 in of inundation.



WW-T03-006-U1. Photo taken facing southwest showing the upland soil pit.



WW-T03-007-W1. Photo taken facing east, showing the wetland soil pit.



WW-T03-007-U1. Photo taken facing south, showing the upland soil pit.



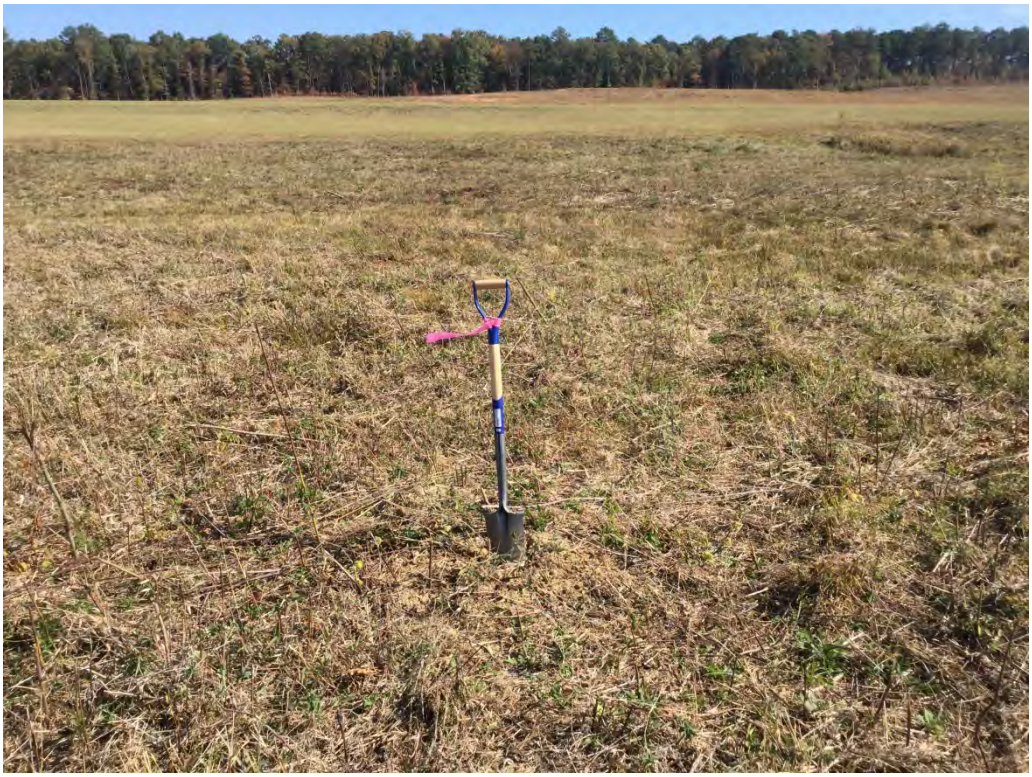
WW-T03-008-W1. Photo taken facing south-southwest, showing the wetland soil pit.



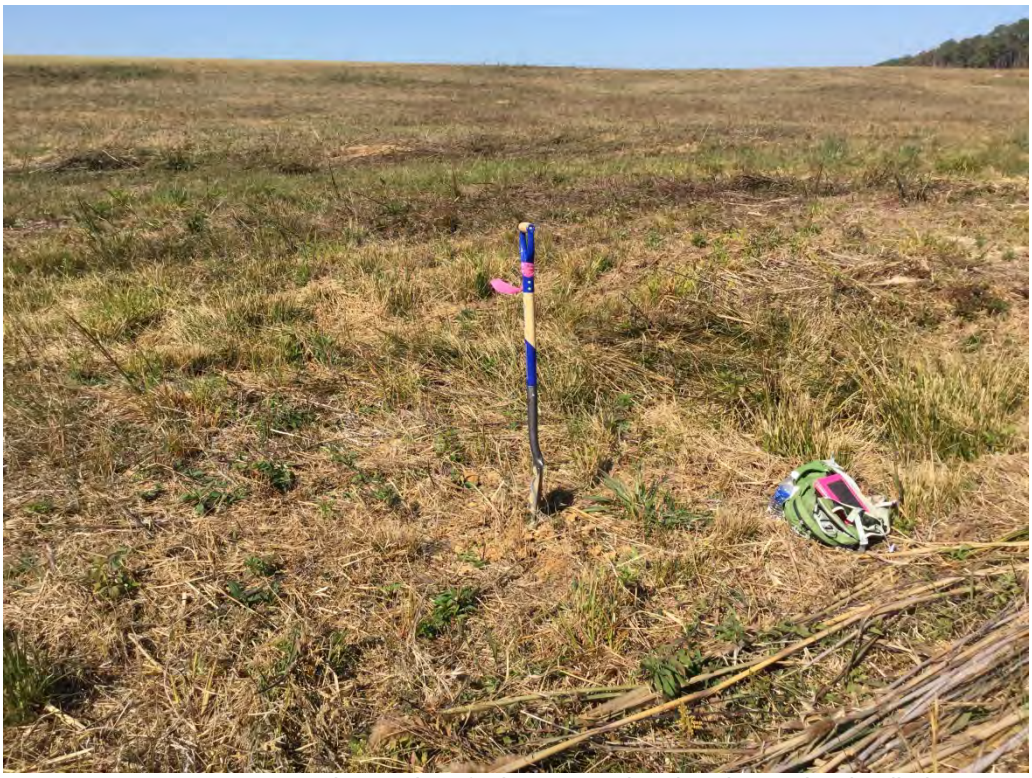
WW-T03-008-U1. Photo taken facing north, showing the upland soil pit.



WW-T05-006-W1. Photo taken facing south, showing the wetland soil pit.



WW-T05-006-U1. Photo taken facing north, showing the upland soil pit.



WW-T05-007-W1. Photo taken facing west, showing the wetland soil pit.



WW-T05-007-U1. Photo taken facing east, showing the upland soil pit.

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B-4 NOLF Joe Williams Stream Photos

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SS-T01-002. Photo taken facing northeast, showing upstream. This perennial stream flows southwest through wetland; there is a 36 in concrete culvert under the access road at the edge of the panel.



SS-T01-002. Photo taken facing southwest, showing downstream. This perennial stream flows southwest through wetland; there is a 36 in concrete culvert under the access road at the edge of the panel.



SS-T01-002. Photo taken facing northwest, showing left bank to right bank. This perennial stream flows southwest through wetland; there is a 36 in concrete culvert under the access road at the edge of the panel.



SS-T01-003. Picture taken facing northwest, showing upstream. This perennial stream flows south through PFO wetland. SS-T01-002 overflows into this stream through PFO wetland.



SS-T01-003. Photo taken facing south, showing downstream. This perennial stream flows south through PFO wetland. SS-T01-002 overflows into this stream through PFO wetland.



SS-T01-003. Photo taken facing east, showing right bank to left bank. This perennial stream flows south through PFO wetland. SS-T01-002 overflows into this stream through PFO wetland.



SS-T01-003. A second datasheet was taken for this stream due to a change in characteristics. Photo taken facing west, showing upstream.



SS-T01-003. A second datasheet was taken for this stream due to a change in characteristics. Photo taken facing east, showing downstream.



SS-T01-003. A second datasheet was taken for this stream due to a change in characteristics. Photo taken facing east, showing right bank to left bank.



SS-T01-003B. Photo taken facing northwest, showing upstream. This stream is intermittent, flowing south into SS-T01-003.



SS-T01-003B. Photo taken facing south, showing downstream. This stream is intermittent, flowing south into SS-T01-003.



SS-T01-003B. Photo taken facing east, showing right bank to left bank. This stream is intermittent, flowing south into SS-T01-003.



SS-T01-003C. Photo taken facing south, showing downstream. This stream is intermittent, flowing south into SS-T01-003 and starts in wetland area.



SS-T01-003C. Photo taken facing north, showing upstream. This stream is intermittent, flowing south into SS-T01-003 and starts in wetland area.



SS-T01-003C. Photo taken facing east, showing right bank to left bank. This stream is intermittent, flowing south into SS-T01-003 and starts in wetland area.



SS-T01-003D. Photo facing southwest, showing downstream. This stream is perennial and flows southwest into SS-T01-003. It starts in the wetland, and flows through the upland to the other wetland.



SS-T01-003D. Photo taken facing northeast, showing upstream. This stream is perennial and flows southwest into SS-T01-003. It starts in the wetland, and flows through the upland to the other wetland.



SS-T01-003D. Photo taken facing southeast, showing right bank to left bank. This stream is perennial and flows southwest into SS-T01-003. It starts in the wetland, and flows through the upland to the other wetland.



SS-T01-008. Photo taken facing northwest, showing downstream. This is a perennial stream flowing northwest from a hydrologic feature that runs off site. This stream has deeply incised banks.



SS-T01-008. Photo taken facing southeast, showing upstream. This is a perennial stream flowing northwest from a hydrologic feature that runs off site. This stream has deeply incised banks.



SS-T01-008. Photo taken facing south, showing right bank to left bank. This is a perennial stream flowing northwest from a hydrologic feature that runs off site. This stream has deeply incised banks.



SS-T01-008A. Photo taken facing northeast, showing upstream. This is an intermittent stream flowing west into SS-T01-008 with upland banks, and starts in the wetland.



SS-T01-008A. Photo taken facing west, showing downstream. This is an intermittent stream flowing west into SS-T01-008 with upland banks, and starts in the wetland.



SS-T01-008A. Photo taken facing northwest, from right bank to left bank. This is an intermittent stream flowing west into SS-T01-008 with upland banks, and starts in the wetland.



SS-T01-008B. Photo taken facing south, showing upstream. This is a perennial stream flowing north into SS-T01-008, with incised upland banks.



SS-T01-008B. Photo taken facing north, showing downstream. This is a perennial stream flowing north into SS-T01-008, with incised upland banks.



SS-T01-008B. Photo taken facing west, showing right bank to left bank. This is a perennial stream flowing north into SS-T01-008, with incised upland banks.



SS-T01-008C. Photo taken facing southwest, showing upstream. This stream is perennial, flowing northeast through WW-T01-016 and into SS-T01-008b, and fed by HY-T01-001.



SS-T01-008C. Photo taken facing northeast, showing downstream. This stream is perennial, flowing northeast through WW-T01-016 and into SS-T01-008b, and fed by HY-T01-001.



SS-T01-008C. Photo taken facing northwest, showing right bank to left bank. This stream is perennial, flowing northeast through WW-T01-016 and into SS-T01-008b, and fed by HY-T01-001.



SS-T01-009. Photo taken facing west, showing upstream. This stream is intermittent, flowing west into the perimeter road through WW-T01-020.



SS-T01-009. Photo taken facing east, showing downstream. This stream is intermittent, flowing west into the perimeter road through WW-T01-020.



SS-T01-009. Photo taken facing north, showing right bank to left bank. This stream is intermittent, flowing west into the perimeter road through WW-T01-020.



SS-T02-001. Photo taken facing northeast, showing upstream.



SS-T02-001. Photo taken facing southwest, showing downstream.



SS-T02-001. Photo taken facing southwest, showing left bank to right bank.



SS-T02-001. Photo taken facing southeast, showing right bank to left bank.



SS-T02-002. Photo taken facing south, showing downstream. This stream runs into SS-T01-003.



SS-T02-011. Photo taken facing east-southeast, showing upstream.



SS-T02-011. Photo taken facing west-northwest, showing downstream.



SS-T02-011. Photo taken facing south-southwest, showing right bank to left bank.



SS-T02-012. Photo taken facing northeast, showing upstream. This stream is small, ephemeral, and runs through an upland area.



SS-T02-012. Photo taken facing southwest, showing downstream. This stream is small, ephemeral, and runs through an upland area.



SS-T02-012. Photo taken facing southeast, showing right bank to left bank. This stream is small, ephemeral, and runs through an upland area.



SS-T02-013. Photo taken facing south, showing downstream.



SS-T02-013. Photo taken facing north, showing upstream.



SS-T02-013. Photo taken facing east, showing right bank to left bank.



SS-T02-014. Photo taken facing east, showing upstream. This is a small tributary, stopping just short of joining SS-T02-013 and forks at SS-T02-014A.



SS-T02-014. Photo taken facing west, showing downstream. This is a small tributary, stopping just short of joining SS-T02-013 and forks at SS-T02-014A.



SS-T02-014. Photo taken facing north, showing left bank to right bank. This is a small tributary, stopping just short of joining SS-T02-013 and forks at SS-T02-014A.



SS-T03-001. Photo taken facing northeast, showing downstream.



SS-T03-001. Photo taken facing southwest, showing upstream.



SS-T03-001. Photo taken facing southeast, showing left bank to right bank.



SS-T03-001A. Photo taken facing northeast, showing downstream. This stream is connected and originating from HY-T03-002.



SS-T03-001A. Photo taken facing southwest, showing upstream. This stream is connected and originating from HY-T03-002.



SS-T03-001A. Photo taken facing southeast, showing left bank to right bank. This stream is connected and originating from HY-T03-002.



SS-T03-001B. Photo taken facing northeast, showing downstream.



SS-T03-001B. Photo taken facing south, showing upstream.



SS-T03-001B. Photo taken facing west, showing right bank to left bank.



SS-T03-001C. Photo taken facing northeast, showing downstream. This stream originates from WW-T03-003.



SS-T03-001C. Photo taken facing south, showing upstream. This stream originates from WW-T03-003.



SS-T03-001C. Photo taken facing northwest, showing right bank to left bank. This stream originates from WW-T03-003.



SS-T03-002. Photo taken facing northwest, showing downstream.



SS-T03-002. Photo taken facing southwest, showing upstream.



SS-T03-002. Photo taken facing southeast, shown left bank to right bank.



SS-T03-002A. Photo taken facing northwest, showing downstream.



SS-T03-002A. Photo taken facing southeast, showing upstream.



SS-T03-002A. Photo taken facing southwest, showing right bank to left bank.



SS-T03-003. Photo taken facing east, showing downstream.



SS-T03-003. Photo taken facing southwest, showing upstream.



SS-T03-003. Photo taken facing south, showing left bank to right bank.



SS-T03-003A. Photo taken facing northeast, showing downstream.



SS-T03-003A. Photo taken facing south-southeast, showing upstream.



SS-T03-003A. Photo taken facing southeast, showing left bank to right bank.



SS-T03-003B. Photo taken facing northeast, showing downstream.



SS-T03-003B. Photo taken facing southwest, showing upstream.



SS-T03-003B. Photo taken facing north, showing right bank to left bank.



SS-T03-003C. Photo taken facing northwest, showing downstream.



SS-T03-003C. Photo taken facing southeast, showing upstream.



SS-T03-003C. Photo taken facing southwest, showing right bank to left bank.



SS-T03-004. Photo taken facing northwest, showing downstream.



SS-T03-004. Photo taken facing southeast, showing downstream.



SS-T03-004. Photo taken facing southwest, showing right bank to left bank.



SS-T03-004A. Photo taken facing east, showing downstream.



SS-T03-004A. Photo taken facing west, showing upstream.



SS-T03-004A. Photo taken facing southeast, showing left bank to right bank.



SS-T03-004B. Photo taken facing east, showing upstream.



SS-T03-004B. Photo taken facing west, showing downstream.



SS-T03-004B. Photo taken facing north, showing left bank to right bank.



SS-T03-005. Photo taken facing northwest, showing downstream. This stream is fed from HY-T03-003, and ends in WW-T03-006.



SS-T03-005. Photo taken facing east, showing upstream. This stream is fed from HY-T03-003, and ends in WW-T03-006.



SS-T03-005. Photo taken facing north, showing left bank to right bank. This stream is fed from HY-T03-003, and ends in WW-T03-006.



SS-T03-006. Photo taken facing west, showing downstream.



SS-T03-006. Photo taken facing east, showing upstream.



SS-T03-006. Photo taken facing north, showing left bank to right bank.



SS-T03-007. Photo taken facing east, showing downstream.



SS-T03-007. Photo taken facing northeast, showing upstream.



SS-T03-007. Photo taken facing northeast, showing right bank to left bank.



SS-T03-008. Photo taken facing southeast, showing downstream.



SS-T03-008. Photo taken facing west, showing upstream.



SS-T03-008. Photo taken facing southeast, showing left bank to right bank.



SS-T05-009. Photo taken facing north, showing upstream.



SS-T05-009. Photo taken facing south, showing downstream.



SS-T05-009. Photo taken facing west, showing left bank to right bank.



SS-T05-010. Photo taken facing northwest, showing upstream.



SS-T05-010. Photo taken facing southeast, showing downstream.



SS-T05-010. Photo taken facing southwest, showing left bank to right bank.