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HUMBOLDT MUNICIPAL AIRPORT (M53)
OBSTRUCTION CLEARING
ENVIRONMENTAL ASSESSMENT
GIBSON COUNTY, TENNESSEE

Prepared for:

HUMBOLDT MUNICIPAL AIRPORT, TENNESSEE
HUMBOLDT, TENNESSEE

Prepared by:

BARGE DESIGN SOLUTIONS, INC
Nashville, Tennessee

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To request further information, contact:
Erin Burkle
Transportation Program Supervisor
Tennessee Department of Transportation
Aeronautics Division
7335 Centennial Blvd
Nashville, TN 37209
Phone: 615-770-5757 Office
615-506-3083cell
E-mail: Erin.Burkle@tn.gov

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Table of Contents

List of Figures

List of Tables

List of Appendices

Symbols, Acronyms, and Abbreviations

Symbol, Acronym, Abbreviation	Definition
Airport	Humboldt Municipal Airport
ARAP	Aquatic Resource Alteration Permit
Barge	Barge Design Solutions, Inc.
BMP	Best Management Practices
CAA	Clean Air Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
The City	The City of Humboldt
DNL	Day-Night Average Noise Level
dB	Decibel
dbA	Weighted Decibel
Desk Reference	Council on Environmental Quality Regulations (CEQ; 40 Code of Federal Regulations 1500-1508), FAA 1050.1F, Desk Reference
DOI	Department of the Interior
DSWM	Tennessee Division of Solid Waste Management
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Federal Aviation Administration Regulation
FEMA	Federal Environmental Management Agency
FIRM	Flood Insurance Rate Maps
GHG	Greenhouse Gasses
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NO_x	Nitrogen Oxides
NO_2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High-Water Mark
OSHA	Occupational Health and Safety Administration
P	Pond
Pb	Lead
PM	Particulate Matter
PEM	Palustrine Emergent Wetland
POW	Palustrine Open Water Wetland
Project Site	Project Study Area
RCRA	Resource Conservation and Recovery Act
RPZ	Runway Protection Zone
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide
STR	Stream
SWPPP	Stormwater Pollution Prevention Plan
TAD	Tennessee Department of Transportation Aeronautics
TDEC	Tennessee Department of Environment and Conservation
TDOT	Tennessee Department of Transportation
TERPS	Terminal Instrument Procedures
TWRA	Tennessee Wildlife Resources Agency

T&E	Threatened and Endangered Species
USACE	United States Army Corp of Engineers
USFWS	United States Fish and Wildlife Service
USEPA	United States Environmental Protection Agency
USGS	United States Geological Service-
VOC	Volatile Organic Compounds
WTL	Wetland
WWC	Wet Weather Conveyance

CHAPTER 1 – INTRODUCTION

1.1 Background

This Environmental Assessment (EA) addresses the potential impacts arising from the proposed obstruction removal at the Humboldt Municipal Airport (Airport). Federal Aviation Administration (FAA) Regulations (FAR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (FAR Part 77), FAA AC 5300-13B Surface 4 and Surface 5, published Terminal Instrument Procedures (TERPS), and the Tennessee Department of Transportation (TDOT) Aeronautics 20:1 State Approach define the airspace surrounding runways.

The Humboldt Municipal Airport is a public use airport owned by the City of Humboldt, Tennessee. It is located approximately 2.5 miles southeast of the City and is at an elevation of 415 feet above mean sea level (Figure 1-1). The entrance to the Airport is off East Main Street (U.S. Highway 45W). The area surrounding the Airport is a mix of agricultural land, medium density residential housing, and the Humboldt Golf & Country Club. The topography of the Airport and surrounding area is relatively flat.

The Airport serves the aviation needs of the City of Humboldt, Gibson and Madison Counties, Tennessee, and surrounding communities. Facilities at the Airport include Runway 4-22, which is 4,003 feet long and 75 feet wide. This runway is supported by an adjacent taxiway. The most recent data available listed 2,704 operations between 2010-06-01 and 2011-05-31 (Airport-data.com, 2025).

The Project Study Area (Project Site) consists of two zones where obstructions were identified. Zone 1 is at the south end of Runway 4-22 and is approximately 30.7 acres. Zone 2 is at the north end of Runway 4-22 and is approximately 23.2 acres. There was no on-the-ground assessment of 14.6 acres of Zone 2 because the owner denied access to the property (No Access Area, Figure 1-1). Information in this EA about this area is derived from aerial imagery and existing data sources.

1.2 Airspace

There are many objects, such as ground structures, navigational aids, equipment, vehicles, natural growth, terrain, and parked or taxiing aircraft, surrounding an airport. Some objects are considered obstructions if they infringe on one of the surfaces (imaginary planes) that surround all airports. The FAA in FAR, Part 77 identifies five imaginary surfaces: primary, approach, transitional, horizontal, and conical (Figure 1-2). Additionally, there are multiple approach surfaces. These are for the different visual and instrument approaches to a runway. Runway 4-22 has non-precision instrument approach procedures for both runway ends .

An obstruction removal study (Study) (Attachment A) was prepared for the approach surfaces in both zones. Aerial survey data were analyzed to identify obstructions to the State 20:1 Approach surface and the FAA's Surface 4 and Surface 5. No visual surface was analyzed

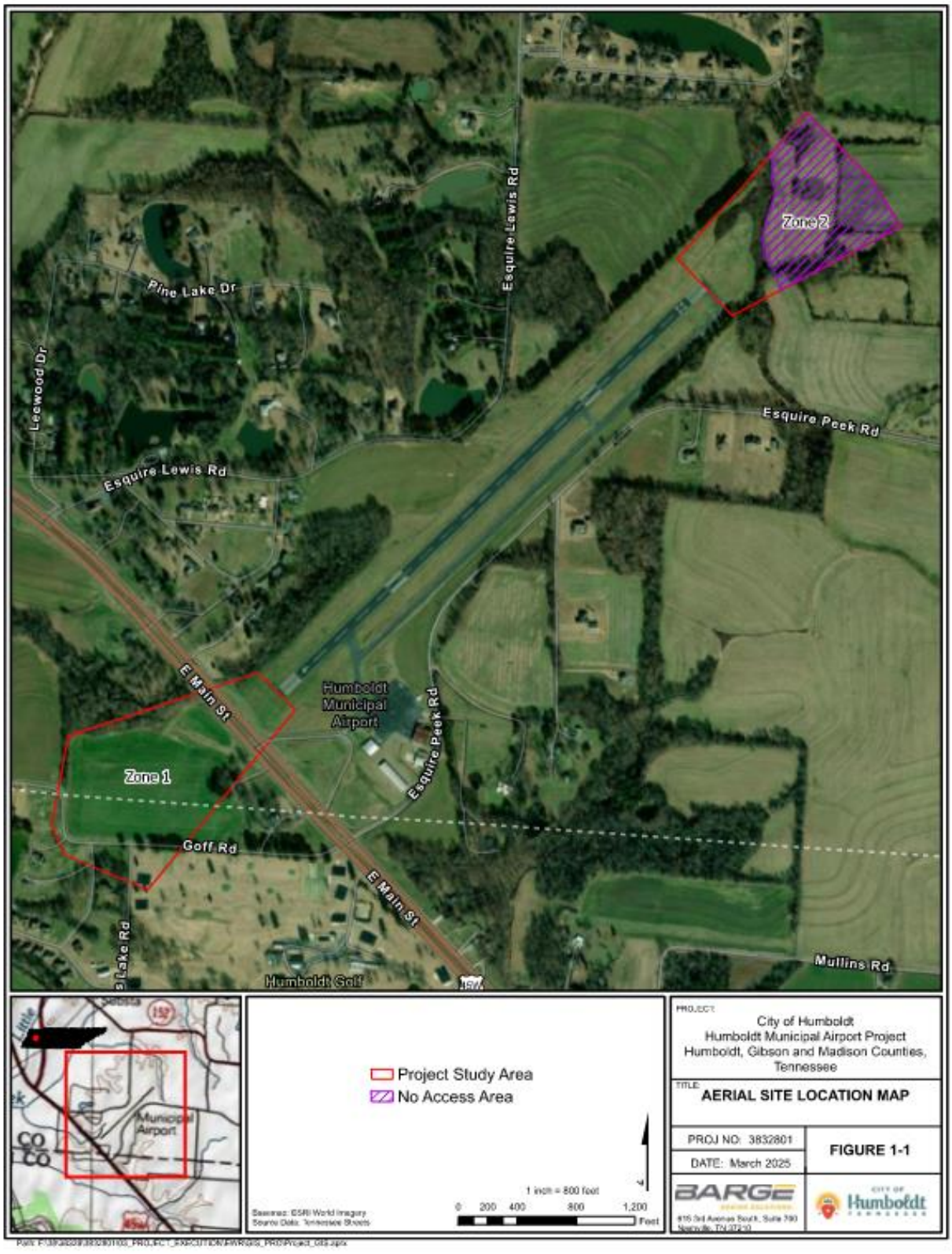

Figure 1-1. Project Study Area and Vicinity

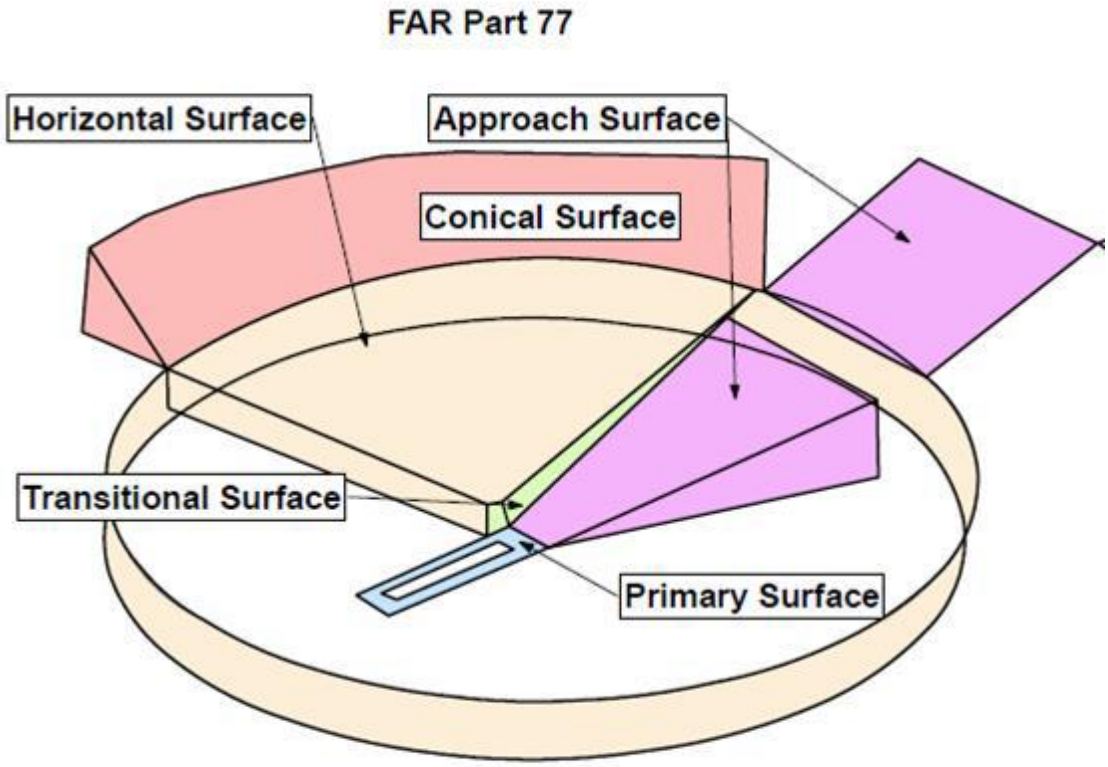

Figure 1-2. Airport Imaginary Surfaces

The data used for the Study includes recently collected data for the Airport Layout Plan Update and information on the TDOT Aeronautic Division website https://www.tn.gov/tdot/aeronautics.html. The Study identified obstacles and structures that penetrate or may penetrate the approach surface in the next five years. FAA guidance recommends removal of trees or other vegetation that penetrate the surface or are below the surface at the time the Study was prepared but may grow up to or over 13 feet in the next five years. While there are man-made obstructions in the Project Site, only trees are proposed to be removed.

Some of the obstructions are not on Airport property. To address this issue, the Airport will seek to acquire avigation easements for obstructions on privately owned property. An avigation easement is a property right acquired from a landowner which protects the use of airspace above a specified height and imposes limitations on use of the land subject to the easement (International Right of Way Association, 2012.). Generally, uses that attract birds or interfere with pilot visibility and instrumentation are prohibited. Acquisition of these easements will allow the Airport to manage future and existing vegetative obstructions within the easements.

1.3 Purpose and Need

The purpose of the Project is to remove obstructions penetrating the approach surfaces of Runway 4-22 or that may penetrate one of the approach surfaces of the runway in the next five years. The Proposed Action is needed is to maintain a safe operating environment for current and future users of the Airport and to maintain the Airport's status as a General Aviation facility.

1.4 Scope of the Environmental Assessment

The EA was prepared to meet the requirements of the National Environmental Policy Act (NEPA) of 1969 and as amended in 2023 (U.S. Government, 2025). Guidance in preparing this EA comes from FAA Order 1050.1G, Environmental Impacts: Policies and Procedures (FAA, 2025) 2020 Council on Environmental Quality Regulations (CEQ; 40 Code of Federal Regulations 1500-1508) (CEQ, 2020), FAA 1050.1F, Desk Reference website (Desk Reference) (FAA, n.d.), and FAA Order 5050.4B (FAA 2006), National Environmental Policy Act Implementing Instructions for Airport Actions website, which provides regulations and guidance to ensure agency compliance with NEPA. Per the CEQ, the 2020 version of the regulations should be considered as a non-official copy for users' reference.

This EA identifies the Proposed Action Alternative (Proposed Action) and No Action Alternative, describes the existing environment where the obstructions would be removed, analyzes potential environmental impacts associated with implementing the Proposed Action and the No Action Alternatives, and discusses the reasonably foreseeable effects (RFEs) of implementing the Proposed Action. Significance is determined by analyzing the potentially affected environment and degree of the effects of the action. Implementing the Proposed Action would result in the removal of obstructions that penetrate the approach surface at both ends of Runway 4-22.

The RFEs of the Proposed Action are assessed based on existing data sources and the following proposed short- and long-term projects at the Airport as described in the Gibson newspaper article (Gibson County News, 2025):

- Install cameras to enhance security (short-term)
- Redesign and repair the airport's taxiway (short-term)
- Repave the runway (long-term)
- Upgrade the lighting systems (long term)
- Construct additional hangars (long-term)

Considering the Proposed Project and identification of applicable laws, regulations, executive orders (EOs), and policies, the following resources are discussed and analyzed in this EA:

- Air Quality and Climate
- Biological Resources (Vegetation Wildlife, Migratory Birds, and Listed Species)
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological, and Cultural Resources
- Natural Resources and Energy Supply
- Noise and Noise-Compatible Land Use
- Visual Effects
- Water Resources (Groundwater, Surface Water, and Wetlands)

- Reasonably Foreseeable Impacts (Replaces Cumulative Impacts)

For the reasons noted below, the following resources are not addressed in the EA:

- Coastal Resources – The project is not located in a coastal area where coastal resources could be impacted.
- Department of Transportation Act, Section 4(f) – The project does not impact any public parks, recreation areas, or wildlife or waterfowl refuges of national, state, or local significance, or land of an historic site of national, state, or local significance. The Humboldt Golf and Country Club, which is southeast of Runway 4, is privately owned and is not subject to requiring a Section 4(f) Evaluation.
- Farmlands – No farmland will be impacted by removal of the trees.
- Land Use – The project does not require any changes in land use.
- Cultural Resources – No coordination with a State Historic Preservation Office (SHPO) was identified in the environmental determination checklist that was signed by TDOT (Attachment B). Note: There will be no below-ground disturbances. All root balls from downed trees will be left in place.
- Socioeconomics – Implementing the Proposed Action will not result in a change to the social or economic conditions of the area. Some economic benefit may result if a local contractor is hired to do the work.

This EA consists of five Chapters and five Attachments:

- **Chapter 1.0:** Describes the purpose and need for the Project, public involvement, necessary permits or licenses, and the EA overview.
- **Chapter 2.0:** Describes the Proposed Action and No Action Alternatives, provides a comparison of alternatives, and discusses the Proposed Action.
- **Chapter 3.0:** Discusses the affected environment and the potential direct, indirect, and cumulative impacts on these resource areas. Mitigation measures are also proposed, as appropriate.
- **Chapter 4.0:** List of Preparers of this EA and their roles.
- **Chapter 5.0:** Literature Cited.
- **Attachment A:** 2024 Obstruction Study
- **Attachment B:** TDOT Environmental Determination Checklist
- **Attachment C:** Public Comment and Responses
- **Attachment D:** Summary of the Environmental Features for the Humboldt Municipal Airport
- **Attachment E:** U.S. Fish and Wildlife Service (USFWS) & Tennessee Wildlife Resources Agency (TWRA) Consultation Letters

1.5 Public Involvement

On [Date TBD], an electronic version of the Draft EA was posted on the TDOT website for a 30-day public comment period. It included an option for the public to submit comments electronically. Public notices were published in local newspapers soliciting comments from other agencies, the public, and any interested organizations.

During the 30-day public review and comment period of the draft EA, a total of [TBD] members of the public submitted comments. The comments and responses are included in Attachment C.

1.6 Necessary Permits

The trees that are to be removed are on upland. No trees that will be removed that are in streams or wetlands. Thus, an Aquatic Resource Alteration Permit (ARAP) or a §401 Water Quality Certification (§401 certification) from the Tennessee Department of Environment and Conservation (TDEC) or a federal §404 permit from the U.S. Army Corps of Engineers (USACE) would not be necessary.

Should there be resources found in the portion of Zone 2 that were not surveyed that require a permit (Figure 1—1, No Access Area), the City will consult with the appropriate state or federal agency prior to beginning obstruction removal and take appropriate steps to obtain all necessary authorizations before beginning tree removal. The City or its contractor will obtain any local permits necessary to complete the tree removal.

CHAPTER 2 - ALTERNATIVES

2.1 Description of Alternatives

2.1.1 Alternative A – The No Action Alternative

If no action is taken, the trees will continue to be obstructions to aviation. Over time the tree heights would increase, thus increasing the hazard to aviation.

2.1.2 Alternative B – Implement the Findings of the Obstruction Removal Study

The obstruction removal study performed for the Airport's approach surfaces identified 119 trees penetrating one or more of the surface approaches and 184 trees that have not penetrated one of the surface approaches but may do so in the next five years (Figure 2.1-a, b). The intent is to cut all trees at ground level and leave the root balls in place. Trees on the upland may be left in place or removed. Trees and root balls on sloped land near streams will be left in place to minimize erosion.

Some of the obstructions are on Airport property and others are on privately owned land. New avigation easements will be sought for areas not currently under an easement. Securing these easements would provide the legal authority to manage obstructions as they arise, avoiding the need for future renegotiations with property owners. This approach offers a strategic long-term solution for proactive airspace management around the Airport.

2.1.3 Alternatives Considered but Eliminated From Further Discussion

No other alternatives were considered.

2.2 Comparison of Alternatives

This EA evaluates the potential environmental effects that could result from implementing the No Action Alternative or the Proposed Action at the Humboldt Municipal Airport. The analysis of impacts in this EA is based on current and potential future conditions on the property and within the surrounding region. The summary and comparison of impacts by alternative for each resource area evaluated are in Table 2-1.

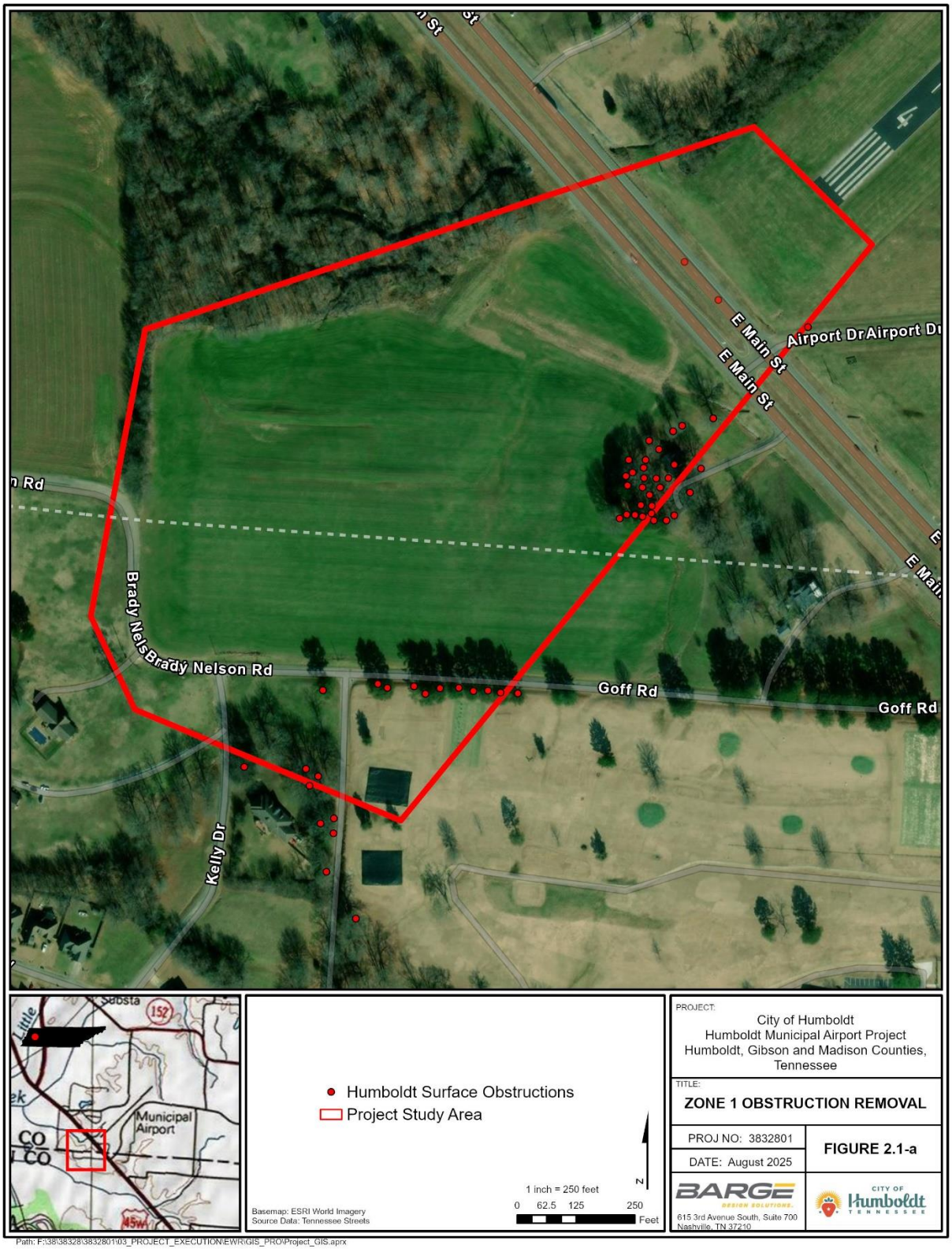

Figure 2.1-a. Zone 1

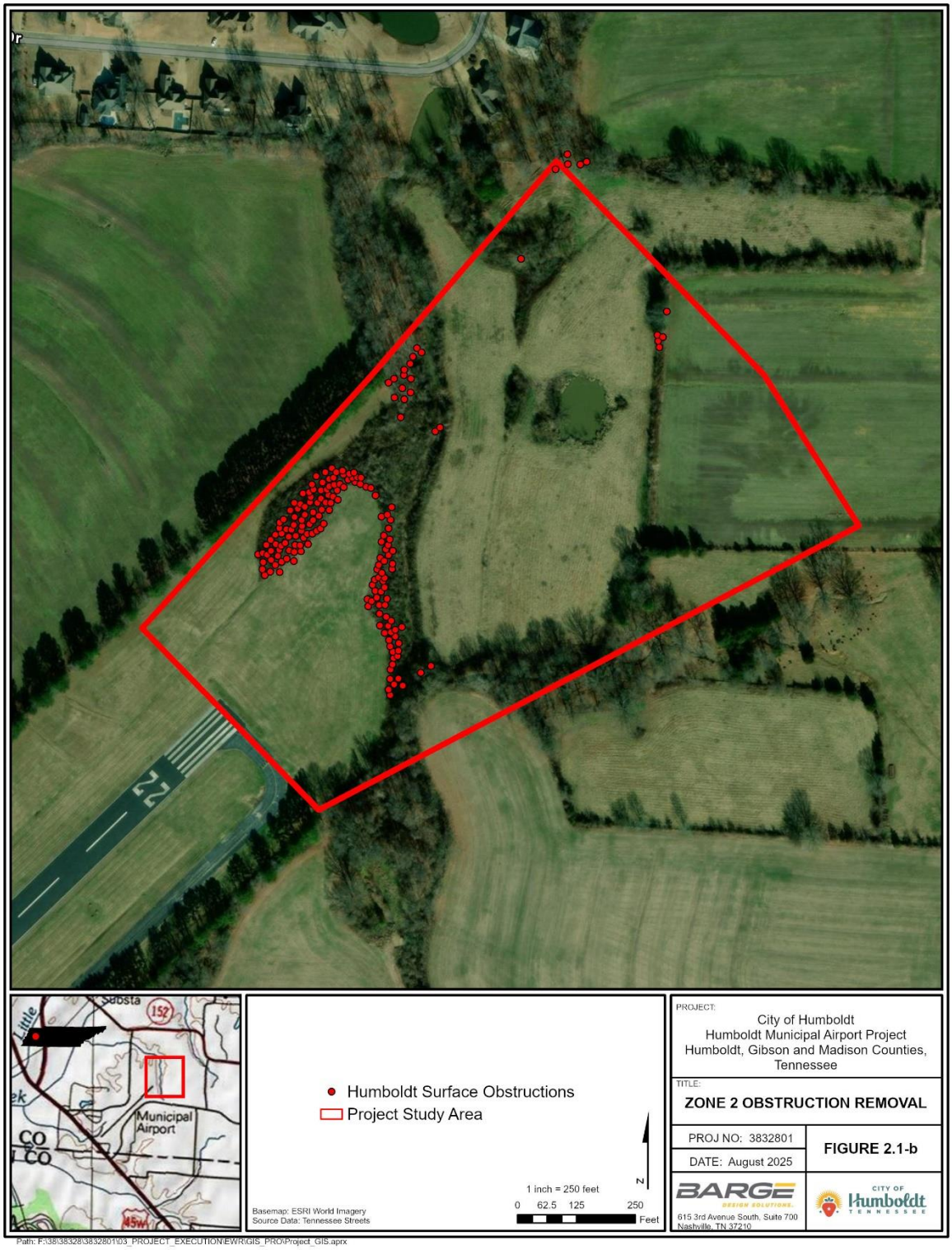

Figure 2.1-b. Zone 2 Obstruction Removal

Table 2-1. Summary and Comparison of Alternatives by Resource Area

Resource Area	Impacts from the No Action Alternative	Impacts of the Proposed Action
Air Quality and Climate	No direct or indirect impacts anticipated from obstruction removal.	Minor direct and indirect impacts resulting from localized exhaust fumes from equipment during construction. Impacts end when tree removal is completed.
Biological Resources	The status of wildlife, vegetation and threatened & endangered and other rare species would not noticeably change.	**Vegetation:** Considering the large amount of similar vegetation types in the area, both regionally and locally, clearing trees would be regarded as minimal and have insignificant direct impacts. **Wildlife:** Direct impacts on wildlife would be minor and insignificant. During obstruction removal mobile species would be able to avoid tree clearing by moving offsite. Once work is completed, displaced species could move back onsite. **Threatened & Endangered and Other Rare Species:** No state or federal listed species were found onsite, thus direct impacts to these species are not anticipated. Tree clearing performed between October 15 and March 31 would have little to no impact on the federally listed bat species. TWRA does not anticipate the project will cause adverse impacts to species of concern.
Hazardous Materials, Solid Waste, and Pollution Prevention	No tree obstruction removal would occur with this alternative. There would be no impact associated with hazardous materials.	The Proposed Action may generate small amounts of potentially hazardous materials from the machinery used to remove the obstructions. These wastes will be managed by the contractor in accordance with all state and federal rules and Best Management Practices (BMPs) regarding how to handle and safely dispose of the hazardous wastes.

Natural Resources and Energy Supply	There will be no impact to natural resources or energy supply if the trees are not cleared.	There will be a need for some fuels, lubricants, and water for the equipment used during tree removal. The amounts required for obstruction removal are minor and do not require any resources or energy supplies considered rare or in short supply.
Noise	No tree removal would take place; therefore, no noise impacts would occur.	Construction noise would cause temporary and short-term impacts to the ambient sound environment near the Project Site. The loudest noise would be from the chainsaws, but it would be minimal and short-term.
Visual Effects	There would be no change to the visual makeup.	Tree removal will result in changes to the visual character for the two residences where trees close to the residences will be removed.
Water Resources	There would not be any direct project-related impacts to water resources. Indirect impacts to water resources could result from runoff and erosion if land use were not maintained or changed in the future.	Overall, direct and indirect impacts on local aquifers and groundwater are not anticipated. Clearing of trees would not impact any jurisdictional streams, ponds, or wetlands. Downed trees and root balls near streams will be left in place to minimize erosion. Crews will access the sites via upland routes. The Project Site is not in the 100- or 500-year floodplain.

2.3 Identification of Mitigation Measures

As adverse effects from the Proposed Action are expected to be minor, no specific mitigation measures are planned except for leaving root balls in place and leaving downed trees in place where removal could contribute to erosion issues.

2.4 The Preferred Alternative

The Preferred Alternative was determined to be Alternative B, Implement the Findings of the Obstruction Removal Study.

CHAPTER 3 – AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSQUENCES

3.1 Air Quality and Climate

Air Quality

This section describes an overview of existing air quality and Greenhouse Gas (GHG) emissions within the Project Site and the potential impacts on air quality and GHG emissions that would be associated with the Proposed Action and No Action Alternatives.

FAA guidance for assessing a project's impacts to air quality is detailed in Chapter 1 of the Desk Reference. Under the Clean Air Act (CAA), the U.S. Environmental Protection Agency (EPA) developed the National Ambient Air Quality Standards (NAAQS) for six common air pollutants: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), sulfur dioxide (SO_2), and lead (Pb). Nitrogen oxides (NO_x) and volatile organic compounds (VOCs) are regulated as precursors to ozone. In accordance with the CAA, areas are designated a degree of compliance: attainment, nonattainment, or maintenance. An area with air quality better than the NAAQS is designated as "attainment"; an area with air quality worse than the NAAQS is designated as "nonattainment." Nonattainment areas are further classified as extreme, severe, series, moderate, or marginal.

Climate

GHGs are chemical compounds in the Earth's atmosphere that trap and convert sunlight into infrared heat. Gasses exhibiting greenhouse properties come from both natural and man-made sources. Carbon dioxide, methane, and nitrous oxide are among the most common GHGs emitted from natural processes and human activities.

Carbon dioxide (CO_2) is the main GHG accounting for 79 percent of the GHG emissions in the U.S. in 2020 (EPA, n.d.). Methane (11%), nitrous oxide (7%), and fluorinated gases (3%) comprise of the other GHGs. CO_2 is naturally present in the atmosphere, but many scientists believe that the excesses of CO_2 released by combustion of fossil fuels are dramatically accelerating the release of CO_2 into the atmosphere. Excess CO_2 trapped in the atmosphere absorbs energy from the sun, acting as insulation in the stratosphere and thereby warming the atmosphere temperature. Many scientists believe that climate change will produce negative economic and social consequences across the globe through changes in weather patterns (e.g., more intense hurricanes, greater risk of forest fires, flooding).

3.1.1 Affected Environment

The Project Site is in Gibson County, which is a part of the Western Tennessee Interstate Air Quality Control Region [40 CFR 81, Subpart B, §81.119]. The geographic area that could either directly or indirectly be affected by the proposed project is not expected to extend more than 1/4 mile. Equipment that will be used to clear the obstructions included chainsaws, light duty trucks, and possibly a front-end loader and dump truck if trees are removed from the Project Site.

The EPA Greenbook website (https://www.epa.gov/green-book) does not list Gibson County, Tennessee, as being in nonattainment. Also, according to the ArcGIS website, Nonattainment Areas and Designations Map Viewer

(https://www.arcgis.com/apps/mapviewer/index.html?layers=2a487fb6c56e492e8e2e66608d9b93d6), the Project Site is in attainment for the six common air pollutants.

The average temperature ranges from an average high of 89°F and an average low of 71°F during the warmer months and an average high of 48°F and an average low of 31°F in the colder months. Average wind speed ranges depending on the time of year, ranging from an average of 7.9 miles per hour from October 17 to May 20 and an average of 4.9 miles per hour from May 20 to October 17 (Weatherspark, n.d.). The Airport's elevation is approximately 412 feet above sea level. The area immediately surrounding the Airport is relatively flat. The local meteorological and topographical conditions are not expected to hinder the dispersal of emissions.

3.1.2 Environmental Consequences

3.1.2.1 No Action Alternative

No tree obstruction removal would occur with this alternative. Unless trees are removed for another purpose, there will be no impact on air quality or an increase in GHGs.

3.1.2.2 Action Alternative

The Proposed Action was evaluated using the flowchart in the FAA's Aviation Emissions and Air Quality Handbook, Version 4. Figure 4-1. (FAA, 2024). The result is that obstruction removal is not anticipated to create foreseeable increases in emissions, thus a qualitative air quality assessment is not required.

The project does not include the installation of any emission sources and would not cause permanent increases in air or local traffic. There will be temporary air quality impacts during construction. These potential impacts could include short-term increases in fugitive dust, particulates, and localized pollutant emissions from construction vehicles and equipment. These impacts will dissipate to background levels a short distance from where they emanate. To further minimize emissions, all construction equipment would be properly maintained and outfitted with emission-reducing exhaust equipment. Once the work is completed, there will not be any continuing emissions.

Reasonably Foreseeable Effects

The RFEs for the short-term and long-term projects listed in Section 1.4 of this EA are not expected to have an adverse impact to air quality and climate. These are typical aviation-related projects that would not result in a permanent decline to air quality or measurably contribute to changing the climate.

3.2 Biological Resources

This section provides an overview of existing biological resources within the Project Site and the potential impacts to biological resources that would be associated with the Proposed Action and No Action Alternatives. Information within this section is derived from the Summary of Environmental Features for the Humboldt Municipal Airport Project report (Attachment D).

FAA guidance for assessing a project's impacts to biological resources is detailed in Chapter 2 of the Desk Reference. The biological resources potentially impacted by the Proposed Action include terrestrial and aquatic plant and animal species and state or federally-listed rare, threatened, or endangered species.

Biological resources are regulated by federal and state laws. The laws relevant to biological resources in the vicinity of the Proposed Action include the following:

- The Endangered Species Act (ESA) (16 U.S.C. §§ 1531-1544)
- The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. §§ 703-712) (for actions of nonfederal entities)
- The EO 13186 (January 10, 2001) Responsibilities of Federal Agencies to Protect Migratory Birds
- Bald and Golden Eagle Protection Act (BGPA)
- Rules of the Tennessee Wildlife Resources Agency, Chapter 1660-01-32 (based on authority provided in Tennessee Code Annotated §§ 70-1-206, 70-8-104, 70-8-106 and 70-8-107)

The US Environmental Protection Agency (USEPA) defines ecoregions as "areas where ecosystems (and the type, quality, and quantity of environmental resources) are generally similar" (USEPA, n.d.-a). The Project Site lies within two distinct ecoregions. The southwestern portion of the project study area is within the Mississippi Valley Loess Plains (74) Tennessee ecoregion and is further categorized into the Loess Plains (74b) sub-ecoregion region of Tennessee. This ecoregion is 250-500 feet in elevation and typically comprised of gently rolling, irregular plains with loess (a porous soil comprised of clay, sand, and silt loosely cemented together with calcium carbonate) up to 50 feet thick. Agriculture within this ecoregion usually consists of soybeans, cotton, corn, milo, sorghum, and hay fields. Native woodland within the Loess Plains ecoregion is commonly comprised of oak-hickory forests grading into southern floodplain forests along large river systems. Many streams have been channelized due to agriculture and tend to be low gradient with silt and sand substrates.

The northeastern portion of the project study area is within the Southeastern Plains (65) Tennessee ecoregion and is further categorized into the Northern Hilly Gulf Coastal Plain (65e) sub-ecoregion of Tennessee. This ecoregion is categorized by north-south trending bands of sand and clay formations, elevations reaching over 650 feet, and more rolling topography as opposed to Loess Plains (74b). Streams exhibit increased gradient, sandy channel substrates, and distinct wildlife communities when compared to the western portions of Tennessee. Natural vegetative communities prior to anthropogenic disturbances were composed of oak-hickory forests that transition into oak-hickory-pine forests to the south.

3.2.1 Affected Environment

3.2.1.1 Vegetation

Desktop investigations were conducted prior to field delineations of the proposed Project Site. Wildlife, vegetation, and threatened and endangered species were researched during the

desktop investigations and verified through field delineations. On November 18, 2024, biologists performed an onsite investigation for the Humboldt Municipal Airport Project (Figure 1-1).

Land uses within the Project Site predominantly consist of agricultural and fragmented woodland drainage corridors. Vegetative communities were observed as agricultural fields, mixed hardwood forest, brushy cleared land, mowed lawn, and fallow field. A small area of the Humboldt Golf and Country Club is within the southern portion of Zone 1. Vegetation in the No Access Area was determined based on available aerial imagery.

The fragmented mixed hardwood forests onsite consist of sugar maple (*Acer saccharum*), sweetgum (*Liquidambar styraciflua*), red cedar (*Juniperus virginiana*), white oak (*Quercus alba*), red mulberry (*Morus rubra*), shagbark hickory (*Carya ovata*), greenbrier (*Smilax rotundifolia*), sawtooth blackberry (*Rubus argutus*), multiflora rose (*Rosa multiflora*), and black walnut (*Juglans nigra*). This vegetative community is most common along drainage corridors and streams present onsite. The brushy cleared land presents evidence of recent tree or shrub clearing and consists of poison hemlock (*Conium maculatum*), sumac (*Rhys spp.*), sycamore (*Platanus occidentalis*), Johnson grass (*Sorghum halepense*), *sawtooth blackberry*, narrowleaf plantain (*Plantago lanceolata*), and field thistle (*Cirsium discolor*). These early successional species likely colonized the area after vegetative maintenance occurred in the area.

Vegetation in the agricultural fields located onsite consists of remnants of soy crops (*Glycine max*) from the previous growing season, as well as Johnson grass, white clover (*Trifolium repens*), and yellow foxtail (*Setaria pumila*) along the field margins. Residential and mowed or maintained areas consist primarily of red fescue (*Festuca rubra*), Bermuda grass (*Cynodon dactylon*), white clover, and narrowleaf plantain. These areas are primarily located within the Humboldt Golf and Country Club, residential yards, and maintained areas within the Humboldt Municipal Airport. A fragmented fallow field area located on a berm within the Project Site presents a dominance of broomsedge bluestem (*Andropogon virginicus*), as well as smaller components of Johnson grass and yellow foxtail.

3.2.1.2 Wildlife

Native wildlife was observed throughout the Project Site. Identified wildlife were observed utilizing the fragmented forested portions of the site and the surrounding residential and agricultural environments. A list of wildlife species observed during the November 2024 field inspection of the Project Site is provided in Table 3.2-1. The species observed are seasonally biased and it is possible that other wildlife species are present at other times of the year.

Figure 3.2-1 Zone 1 Vegetation

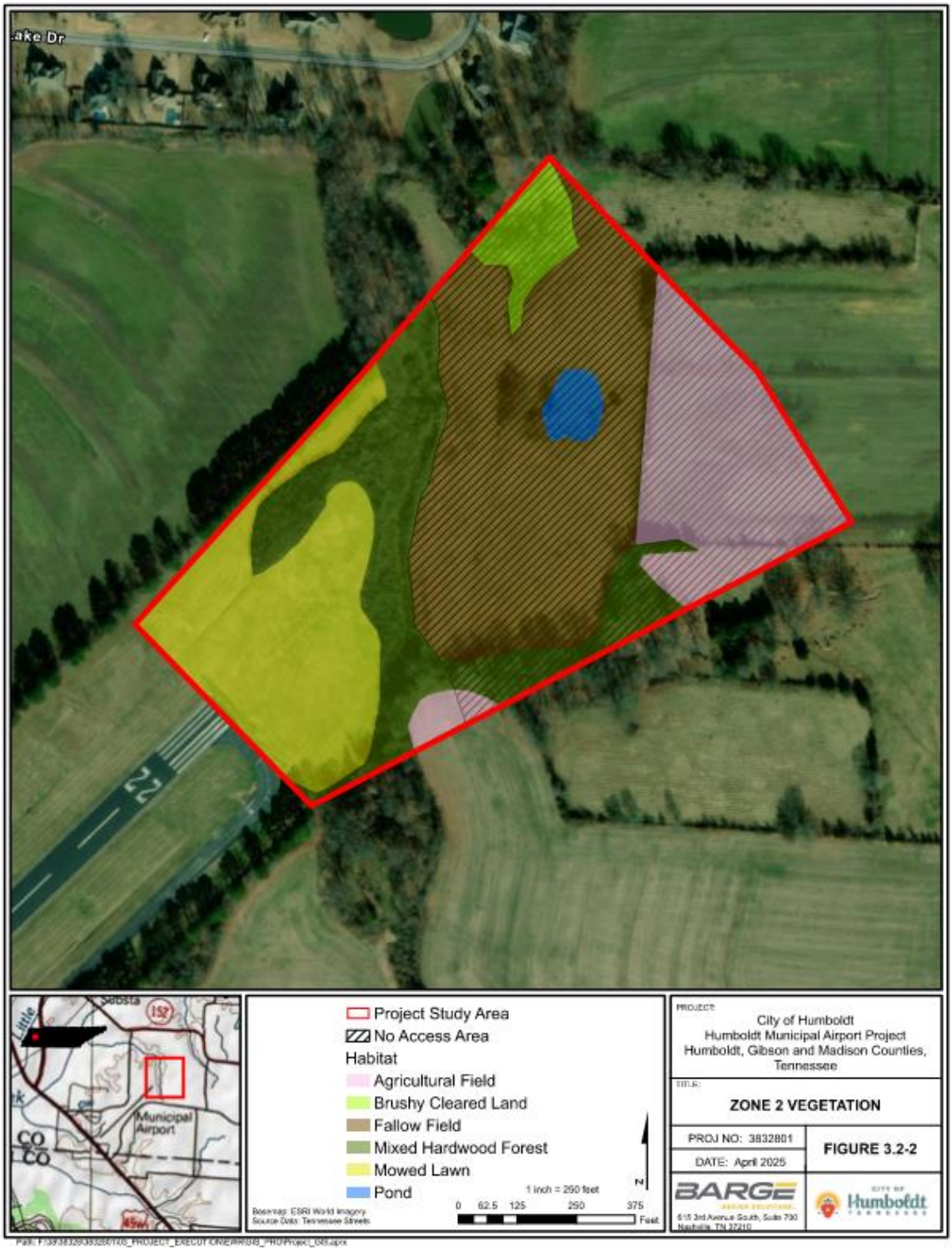

Figure 3.2-2 Zone 2 Vegetation

Table 3.2-1 – Observed Wildlife within the Project Area

Common Name	Scientific Name
Birds	
American crow	*Corvus brachyrhynchos*
Red-Tailed Hawk	*Buteo jamaicensis*
Black vulture	*Coragyps atratus*
Canada goose	*Branta canadensis*
Northern Cardinal	*Cardinalis cardinalis*
Turkey Vulture	*Cathartes aura*
Carolina chickadee	*Poecile carolinensis*

Common Name	Scientific Name
Mammals	
Striped Skunk	*Mephitis mephitis*
White tailed deer	*Odocoileus virginianus*
Raccoon	*Procyon lotor*
Amphibians	
Green Frog	*Lithobates clamitans*

3.2.1.3 Migratory Birds

The USFWS Information for Planning and Consultation (IPaC) online resource lists 16 migratory bird species that could potentially be present within the Project Site (Appendix F of Attachment D). Migratory birds are a particular listing of Birds of Conservation Concern and are not species listed as federally threatened or endangered. The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGPA) make it illegal to take, possess, import, export, transport, sell, or purchase any migratory bird or the part, nests, or eggs of such birds except under the terms of a valid federal permit.

Seven of the sixteen migratory bird species could potentially occur within the Project Site: American kestrel (*Falco sparverius paulus*), chimney swift (*Chaetura pelagica*), chuck-will's willow (*Antrostomus carolinensis*), Black-throated green warbler (*Setophaga virens waynei*), Eastern whip-poor-will (*Antrostomus vociferus*), red-headed woodpecker (*Melanerpes erythrocephalus*), and wood thrush (*Hylocichla mustelina*). During the November 2024 site visit, none of the migratory bird species listed above were observed.

3.2.1.4 Rare, Threatened and Endangered Species

The USFWS IPaC online resource was reviewed for potential presence of federally listed animal and plant species within the Project Site (USFWS, n.d.). Four federally listed species were identified as being potentially present within the project area (Table 3.2-2). Additionally, the TDEC online rare species search was also utilized to identify potential state listed species within the Humboldt topographic quadrangle; one state listed threatened species was identified, the whorled sunflower (*Helianthus verticillatus*) (Table 3.2-2) (Appendix F, Attachment D).

Mammals

The tricolored bat (*Perimyotis subflavus*) is listed as a federally proposed endangered species. Suitable summer roosting habitat for the tricolored bat was observed during the field inspection. The project area contains areas of fragmented woodland that could provide suitable summer roosting habitat for this species. No suitable caves or potential hibernacula sites for this species were observed onsite or recorded within a 0.5-mile radius of the Project Site.

Table 3.2-2. Rare, Threatened, and Endangered Species Possibly Present within the Project Site

Common Name	Species	State Status	Federal Status	Habitat Type	Habitat Present	Observed
Mammal						
Tricolored bat	*Perimyotis subflavus*	Threatened	Proposed Endangered	Hibernates during winter in caves, or occasionally in abandoned mines. Summer roosting season in late spring and summer months. Females will roost in leaf clusters in living or dead trees, as well as utilize cavities in living or dead trees and anthropogenic structures.	Yes (Roosting)	No (Potentially Present)
Reptile						
Alligator snapping turtle	*Macrochelys temminckii*	Threatened	Proposed Threatened	Slow moving, deep waters of rivers, sloughs, oxbows, swamps, and lakes. Middle and west Tennessee.	No	No
Insect						
Monarch butterfly	*Danaus plexippus*	N/A	Proposed Threatened	Fallow fields or prairies with a presence of milkweed (*Asclepias spp.*) host plants for larval development.	Yes	No (Potentially Present)
Plant						
Copper iris	*Iris fulva*	Threatened	N/A	Swamps and bottomland forests, stream banks, cypress swamps, and wet pastures.	Yes (Poor)	No (Potentially Present)
Whorled sunflower	*Helianthus verticillatus*	Endangered	Endangered	Grows in remnant prairies or woodland sites, as well as along roadsides, railroad tracks, and agricultural fields in moist soil.	Yes (Not Critical)	No (Potentially Present)

Reptiles

The alligator snapping turtle (*Macrochelys temminickii*) is listed as a federally proposed threatened species known to occur within slow moving, deep waters or rivers, sloughs, oxbows, swamps, and lakes in middle and west Tennessee. The only potentially suitable habitat for this species in the Project Site is the farm pond, P-1. Due to the small size and isolation from larger river or wetland systems, this species is not anticipated to occur in P-1. Presence/absence was not field-verified as the pond is in the No Access Area.

Insects

The monarch butterfly (*Danaus plexippus*) is listed as a federal candidate species which currently has no federal protection. The monarch butterfly is a migratory insect species known to inhabit fallow fields to forage on nectar from flowering plants and to lay their eggs on milkweed (*Asclepias spp.*) plants, the obligate host for larval growth and development. Suitable habitat for the monarch butterfly was observed within the fragmented fallow fields and road margins onsite, although no milkweed species were observed during the site investigation.

Plants

The whorled sunflower is a federally endangered species of flowering plant listed in the IPaC report as potentially occurring within the Project Site. This species grows in remnant prairies or woodland sites, as well as along roadsides, railroad tracks, and agricultural fields in moist soil. Possible habitat fitting this description was in the fragmented fallow field area and along agricultural field and roadway margins located onsite; however, the IPaC report stated that the Project Site does not overlap with the final critical habitat for this species. No individuals from this species were identified during the November 2024 site visit, which was conducted outside of the flowering season for this species.

The copper iris (*Iris fulva*) is a state threatened species of flowering plant shown as potentially occurring within the Project Site. This plant species is known to occur within swamps and bottomland forests, stream banks, cypress swamps, and wet pastures. Wetlands onsite were disturbed due to being located within an agricultural field; therefore, the species is not anticipated to occur within the wetlands present within the Project Site. The 2024 site visit was not performed during the flowering season, and no observable sign of this species or related species within the same genus were documented.

3.2.2 Environmental Consequences

3.2.2.1 No-Action Alternative

Vegetation

Under the No Action Alternative, the proposed tree clearing would not take place and there would be no impact on the existing vegetation in the Project Site. It is assumed that agricultural and aeronautical land use would continue, and forested areas would not be disturbed. Fallow fields would either return to agricultural use or transition gradually from open grassland, shrubs, and young trees to a successional hardwood forest, eventually to a mixed hardwood forest as described in Section 3.2.1.1. No indirect impacts to vegetation are anticipated.

Wildlife

Because current land usage is likely to continue if the tree clearing is not performed, the status of wildlife would not noticeably change. Aeronautical and agricultural land use could limit new wildlife habitats from developing. The existing forested communities would continue to provide habitat for wildlife known to utilize these habitats as described in Section 3.2.1.2. If the land ceases to be used for its current purpose, there is the possibility that wildlife appropriate to the successional communities would move into the area. No indirect impacts to wildlife are anticipated.

Migratory Birds

Under the No Action Alternative, there would be no impact to migratory birds. Migratory species would continue to have existing habitats available when they are in the region. The composition of migratory species could change if any of the habitats undergo succession.

Threatened & Endangered and Other Rare Species

Under the No Action Alternative, existing land uses will continue and there should be no direct or indirect impacts on threatened and endangered or other rare species. Ongoing farming activity is not conducive to supporting threatened and endangered and other rare species. Any fallow fields would undergo a series of successional changes. During these changes, some habitat favorable to threatened and endangered and other rare species may develop. No indirect impacts to threatened and endangered species are anticipated.

3.2.2.2 Proposed Action

Vegetation

The trees to be removed are part of the mixed hardwood forests that are common in the surrounding area. Considering the large amount of similar vegetation types in the area, both regionally and locally, clearing the trees would be regarded as having insignificant direct impacts.

Under the Proposed Action, approximately 303 trees identified as obstructions, or potential obstructions, would be cut down. Trees would be removed so long as removal would not result in erosion issues to nearby streams. On private land, the City is seeking to obtain avigation easements. Removing the trees on Airport land would not significantly contribute to the spread of exotic or invasive species because the Airport maintains the land around the runway to keep it free of obstacles. The City will discuss with the landowners impacted by the project whether to replant trees that are removed. No indirect impacts to vegetation are anticipated.

Wildlife

Overall, direct impacts on wildlife would be minor and insignificant. Within the areas where trees will be cleared, not all trees will be removed, thus there will be suitable habitat remaining after the clearing is completed. Wildlife present in the immediate vicinity of where trees will be cut down could be temporarily impacted by the presence of workers and chainsaws. Direct effects to some wildlife may occur if those individuals are immobile during the time of habitat removal. These effects would be more likely to occur if activities took place during breeding/nesting seasons. Upon completion of the Project, all displaced species will be able to recolonize the site in areas where suitable habitats are present.

The conversion of densely forested areas, one in Zone 1 and one in Zone 2, to less densely forested areas would have a minor impact on common wildlife species (Figures 2.1-a and 2.1-b). The change in the forested area's species composition may make the sites less suitable for some species. However, because surrounding vegetative communities share many similarities with those present on the Project Site, the changes to two small, forested areas would not result in a significant impact to wildlife.

Migratory Birds

Direct impacts to migratory bird species of conservation concern possibly present onsite would not occur if vegetation is removed during the winter tree clearing season (October 15 to March 31). It is recommended that prior to construction the limits of disturbance be cleared of woody vegetation prior to each migratory bird species' breeding season or inspection of

the corridor be performed prior to woody vegetation removal. No indirect impacts to migratory birds are anticipated.

Rare, Threatened, & Endangered Species

Under the Proposed Action, federally listed threatened and endangered species are unlikely to be significantly affected. No species that are currently federally listed were observed during the November 2024 field survey of the Project Site or surrounding area.

Roosting habitat for the proposed endangered tricolored bat is present within the Project Site; however, no individuals of this species were observed during the November 2024 site visit. Due to the lack of caves within the Project Site and a lack of known caves within a 0.5-mile radius of the Project Site, any tree clearing performed between October 15 and March 31 would have little to no impact on the tricolored bat.

The whorled sunflower is listed as a federally listed species and the copper iris is listed as a state threatened species. Suitable habitat is present within the Project Site. However, the November 2024 site visit was not performed during the flowering season, and no observable signs of either species or species within the same genus were documented.

Since the monarch butterfly is currently listed as a federal candidate species, and the little blue heron and Swainson's warbler are only listed as "deemed in need of management" and therefore have no federal or state protections, no further action is needed.

Consultation with the USFWS for the federally listed species listed in the IPaC was completed on July 30, 2025 (Attachment E). Based on the agency's review, they concluded, "Given both the small size of the project, lack of habitat, and lack of proximity of the project site to known records of federally listed species, we are not aware of any threatened or endangered species that would reasonably be expected to occupy the anticipated area of impact. We have no concerns related to federally listed species or their habitats." If new information reveals impacts to listed species, the project is modified, or new species are listed by USFWS, re-coordination with USFWS would be required.

Consultation with the TWRA for state listed species was completed on July 15, 2025 (Attachment E). TWRA applied a 1-mile radius around the Project Site and concluded, TWRA does not anticipate this project to cause adverse impacts to species of concern, currently. TWRA requires BMPs to be implemented during all phases of the obstruction removal and to minimize/eliminate adverse impacts to ALL nearby and downstream wetlands, tributaries, and conveyances.

Reasonably Foreseeable Effects

The RFEs arising from the short-term and long-term projects listed in Section 1.4 of this EA are not expected to have an adverse impact on biological resources. These are typical aviation-related projects that would not result in significant impacts to vegetation, wildlife, or rare, threatened, and endangered species.

3.3 Natural Resources and Energy Supply

3.3.1 Affected Environment

Guidance for assessing a project's impacts to natural resources and energy supply is detailed in Chapter 10 of the Desk Reference. Natural resources refer to the project's consumption of natural resources (such as water, asphalt, aggregate, wood, etc.) and use of energy supplies (such as coal for electricity and fuels for ground vehicles).

The FAA's policy is for proposed work at airports to "exemplify the highest standards of design, including sustainability principles" (FAA, n.d.). The Proposed Action will require the use of primary fuels for vehicles and to power mechanical equipment to cut down and remove some trees and minimal amounts of water.

3.3.2 Environmental Consequences

3.4.2.1 No Action Alternative

There will be no impacts to natural resources or energy supply if the trees are not cleared beyond the natural resources and energy currently used to maintain the Airport and privately owned properties within the Project Site.

3.4.2.2 Proposed Action

The proposed obstruction removal will have a minor impact on natural resources or energy supply. While there will be a need for some fuels, lubricants, and water to clean the equipment and water for workers during tree removal, after the work is complete, no additional natural resources or energy supply will be needed. The amounts required for obstruction removal do not require any resources or energy supplies considered rare or in short supply.

3.4.2.3 Reasonably Foreseeable Effects

The RFEs for the construction of the short-term and long-term projects listed in Section 1.4 of this EA are not expected to result in the use of significant amounts of natural resources and energy. These are typical aviation-related projects that would use natural resources such as aggregate, asphalt, and water and some energy in the form of fuels, lubricants, oil, and electricity; however, the amount of natural resources and energy required will not result in a significant impact to natural resources or energy considered rare or in short supply.

3.4 Noise and Noise-Compatible Land Use

Noise is a type of sound that is considered undesirable or unwanted and above certain levels and can disturb the routine of people and wildlife. Noise is measured in decibels (dB). A dB is a general unit for measuring sound. As noise increases, the dBs increase.

Sound is also measured using a weighted decibel (dbA). The dbA reflects how humans hear sound. Because human ears have varying sensitivity to sound, the dBA is a more realistic means of measuring how humans hear sound. The dB and dbA are similar but not the same, and there is no way to convert from one to the other. How noise levels are reported is variable. Some sources use dB and others use dBA.

The FAA, in Chapter 11 of the Desk Reference, has adopted land use compatibility guidelines for preparing airport noise studies related to aircraft arrivals and departures. The Day-Night Average Sound Level (DNL) is based on sound levels over a 24-hour period plus 10 dB. According to the Desk Reference, a DNL below 65 dB is compatible with all land uses. In comparison, noise levels between DNL 65 dB and 75 dB are considered unsuitable for schools and residential areas but are deemed appropriate for other land uses. DNL levels above 75 dB are deemed incompatible with all nonindustrial surroundings including hospitals, places of worship, and recreation areas.

Chapter 11 of the Desk Reference also discusses the need to include noise sources other than aircraft departures and arrivals in the noise analysis. This includes construction noise which will be the source of noise during tree clearing.

3.4.1 Affected Environment

Zone 1 has one residence within the zone and one residence adjacent to it. Both have some trees approximately 50 feet from the residences. There are also three residences within 300 feet of Zone 1 and several residences along Greenview Cove, approximately 500 feet south of Zone 1. The Humboldt Golf and Country Club is directly to the east of Zone 1.

The closest residences to Zone 2 are homes on Forest Lake Drive. Two residences are approximately 150-200 feet from a location where five trees will be removed. The other residences are 500 feet or more from the sites where trees will be removed. There are forested areas between the residences and the locations where trees will be removed that will help reduce the noise reaching these residences.

The equipment used for tree clearing in Zones 1 and 2 will include medium duty commercial vehicles, front end loader, dump truck, and chain saws. The equipment has average noise levels at 50 feet from the source of 40-55 dBA for the truck, 80 dBA for the front-end loader, 84 dbA for the dump truck, and 85 dBA for the chainsaw (USDOT Federal Highway Administration, n.d.).

3.5 Hazardous Materials, Solid Waste, and Pollution Prevention

Virtually all human activity generates some kind of waste. Once created, waste must be managed. Management includes disposal, recycling, reuse, storage, and release into the environment. Waste is regulated by the Resource Conservation and Recovery Act (RCRA) of 1976 and its amendments (USEPA, n.d.-b). The Act delegates USEPA to regulate hazardous waste. The regulations for this are found in Title 40, Part 261 of the Code of Federal Regulations (CFR). As is allowed by law, USEPA delegated authority to Tennessee to implement and enforce hazardous waste management in 1985. The RCRA defines solid waste as “any garbage or refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, resulting from industrial, commercial, mining, or agricultural operations, and from community activities” (USEPA, n.d.-b). For regulatory purposes, RCRA considers all solid waste as either non-hazardous waste or hazardous waste. RCRA defines a hazardous waste as “a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment” (USEPA, n.d.-c). Non-hazardous waste is all waste that is not classified as hazardous waste.

Guidance for assessing a project's impacts to hazardous materials, solid waste, and pollution prevention is detailed in Chapter 7 of the Desk Reference (FAA, n.d.). If any hazardous waste is generated by implementing the alternatives, the operators of activities that would generate hazardous waste must obtain a RCRA hazardous waste generator identification number from Tennessee Division of Solid Waste Management (DSWM). Assessing if solid and hazardous waste will be generated includes an evaluation of the following:

- Waste streams that would be generated by a project, potential for the wastes to impact environmental resources, and the impacts on waste handling and disposal facilities that would likely receive the waste.

- Potential hazardous materials that could be used during construction and operation of a project, and applicable pollution prevention procedures.

- Potential to encounter existing hazardous materials at contaminated sites during construction, operation, and decommissioning of a project.

- Potential to interfere with any ongoing remediation of existing contaminated sites at the proposed project site or in the immediate vicinity of a project site.

3.5.1 Affected Environment

To identify the presence of potentially contaminated areas within the Project Site, environmental databases were reviewed to determine if any documented concerns were identified within or immediately abutting the limits of the tree removal areas. Historical aerial photographs were also reviewed to evaluate historical uses of the lands that make up the Project Site for possible sources of contamination.

A review of historical aerial maps shows that both zones of the Project Site have retained their current land use since at least 1985. The pond in Zone 2 and the residential areas near Zone 1 were first visible in imagery in 1997. The residences adjacent to Zone 2 were first visible in aerial imagery in 2007. No evidence of hazardous or solid waste sources was noted during the review of aerial imagery.

As stated in the Desk Reference, there are EPA websites that will show if hazardous waste may be present in the Project Site. The following websites were searched for possible presence of hazardous materials:

1. EPA's Superfund site (https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm)

2. Cleanups in My Community (https://www.epa.gov/cleanups/cleanups-my-community)

3. Resource Conservation and Recovery Act's (RCRA) List of Permitted Sites

3.5.2 Environmental Consequences

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention. The Proposed Action and No Action Alternatives were evaluated using the four criteria mentioned above.

3.3.2.1 No Action Alternative

No tree obstruction removal would occur with this alternative; therefore, there would be no impact associated with hazardous materials or solid waste. No action would be required to address pollution prevention.

3.3.2.2 Proposed Action

No significant impacts to solid and hazardous waste are expected. Non-hazardous solid waste would consist of downed trees, other plant matter resulting from the tree clearing, and any waste generated by workers as they clear the obstructions. A licensed and insured contractor would perform tree removal. The contractor will remove trees and plant matter from upland areas for disposal, processing, or recycling offsite according to all laws applicable to the disposal of vegetative material. Non-hazardous waste generated by the workers would be removed from the work areas daily. No significant non-hazardous solid waste impacts are anticipated.

No previous or existing hazardous waste sites are within the Project Site. No aerial photo evidence dating to 1995 exists that either Zone 1 or Zone 2 had any activity that would indicate the presence of hazardous materials. A search of the EPA databases for current or past Superfund sites or reports in the Cleanups in My Community was negative. Additionally, no RCRA permitted hazardous waste management sites or post-closure permitted sites in Gibson County were detected.

The Proposed Action may generate small amounts of potentially hazardous materials from the machinery used to remove the obstructions. These wastes will be the responsibility of the contractor hired to remove the trees. The contractor will be licensed and responsible to abide by all state and federal rules and implement BMPs regarding how to handle and safely dispose of the hazardous waste.

3.3.2.3 Reasonably Foreseeable Effects

The RFEs associated with constructing the short-term and long-term projects listed in Section 1.4 of this EA are not expected to result in generation of significant amounts of hazardous materials and solid waste or require special actions for pollution prevention. These are typical aviation-related projects that would not result in a permanent increase to hazardous or solid waste.

3.5.3 Environmental Consequences

3.5.2.1 No Action Alternative

No tree removal would take place with the No Action Alternative; therefore, no noise impacts would occur. The DNL average for the area surrounding Zones 1 and 2 would not change.

3.5.2.2 Proposed Action

The Proposed Action is designed to enhance safety, not increase the number of annual aircraft operations or change the current mix of aircraft using the Airport. The aviation noise map utilizing data from the OpenSky Network lists the DNL average for the area surrounding Zone 1 at 28 dB and 29 dB for the area surrounding Zone 2 (Noise-Map.com, n.d.). Suburban

residential areas have an average DNL of 55 dB resulting from activities ranging from road usage to topography (FAA, n.d.). These areas are acclimated to variable levels of daytime noise from activities such as construction and road maintenance to airport operations. With the DNL in Zone 1 and 2 being less than the DNL in a suburban residential area, a DNL noise analysis is not required for this project.

Construction equipment and construction traffic would temporarily generate noise. Noise levels and potential adverse effects due to construction activities would vary depending on the type of equipment during the operation, time of operation, and the distance people are from the source of the noise. The Occupation Health and Safey Administration (OSHA) has established a safe working standard DNL of 85 dB (OSHA, n.d.). Workers will be provided with appropriate noise protection equipment so that the 85 dB standard is adhered to.

Clearing could be done Monday through Saturday between the hours of 7:00 AM to 5:00 PM. The project is expected to take approximately three months. Trees to be cleared in Zone 1 include trees surrounding one residence in Zone 1 and one residence just outside of Zone 1 (Figure 2.1-a). During clearing, noise levels will be equivalent to those described in Section 3.5.1 for these residences. Additionally, golfers in proximity to where the trees are being removed may experience noise levels equivalent to those mentioned in Section 3.5.1. Exposure to these noise levels will be for brief periods of time and the exposure to elevated noise levels will end once the trees are removed.

In Zone 2, most of the trees to be cleared are 500 feet or more from the nearest residences. Due to the reduction of sound because of distance, sound waves reflecting off trees, and attenuation of sound by the air, sound levels would be reduced to background levels for these residences.

3.5.2.3 Reasonably Foreseeable Effects

The RFEs from construction noise during the short-term listed in Section 1.4 of this EA will not result in any long-term or permanent elevated noise levels. The long-term projects may result in elevated noise levels from arriving and departing aircraft, additional run-ups by departing aircraft, and a general increase in noise because of more aircraft using the Airport. Future noise analyses may be required prior to beginning repaving the runway and constructing the additional hangars. A determination for future noise analyses cannot be made until the details of these projects are known.

3.6 Visual Effects

Visual resources and visual character impacts are typically related to a decrease in an area's aesthetic quality, resulting from development, construction, or demolition. The FAA does not have a significance threshold for visual effects. However, the agency does have guidance on what could be a significant visual resource or visual character impact:

- The degree to which the action would have the potential to affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources.

- The degree to which the action would have the potential to contrast with the visual resources and/or visual character in the study area.

- The degree to which the action would have the potential to block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

Chapter 13 of the Desk Reference states that visual effects are divided into two categories: (1) light emissions and (2) visual resources and visual character. Light emissions come from airport lighting sources such as navigational aids and terminal and parking lot lighting. Visual resources include structures and natural features that are visually important or have unique characteristics. Visual character refers to the overall visual makeup of the environment in the area where the Proposed Action is located. As this project will not involve an increase or decrease in light emissions produced by the Airport, the following subsections address visual resources and visual character.

3.6.1 Affected Environment

The visual resources in Zone 1 that can be seen from E. Main Street (US 45W), the residence within Zone 1, and cars or people travelling along Brady Nelson Road include an agricultural fallow field, the edge of mixed hardwood forests, and mowed lawn. There are no roads or residences that have a direct line of sight to mowed, forested, or agricultural areas in Zone 2.

3.6.2 Environmental Consequences

The Proposed Action and No Action Alternatives were evaluated using the guidance mentioned above.

3.6.2.1 No Action Alternative

The Project Site has a visual character that is dominated by the Airport, local roadways, the Humboldt Golf and Country Club, fragmented mixed hardwood woodland, residential subdivisions, and undeveloped post-agricultural pastureland. Under the No Action Alternative, no tree removal would occur and there would not be any changes to the visual effects unless arising from actions not related to this project.

3.6.2.2 Proposed Action

On behalf of the City, Barge's right-of-way subcontractor will contact property owners of the homes and golf course to discuss the obstruction removal. In Zone 1, obstruction removal will result in a change to the visual character for some residents and people travelling along E. Main Street (Figure 2.1-a).

Residents in the dwelling inside of Zone 1 will have a more unobstructed view of US 45W and the farm field adjacent to the residence. They may also see more of the runway approach lights. Residents in the house adjacent to the Project Site will have a more unobstructed view of Dukes Lake Road (Figure 2.1-a). Some trees along Brady Nelson Road will be removed resulting in golfers having an unobstructed view of the existing farm field in Zone 1. These changes will make approaching and departing aircraft briefly more visible but will not result in any short- or long-term visual impacts. People travelling along E. Main Street will also notice that trees have been removed around the residence within Zone 1. These changes to the visual character could be mitigated by planting new vegetation that will not grow to the

point it becomes an obstruction. A decision to replant new vegetation will be discussed with the private property owners impacted by obstruction removal.

Due to the number of trees to be removed in Zone 2, there will be a change to the visual character. However, because no part of Zone 2 is visible to anyone, any changes to the visual character arising from the obstruction removal will not be noticed.

3.6.2.3 Reasonably Foreseeable Effects

The RFEs to visual resources arising from the short-term and long-term projects listed in Section 1.4 of this EA have no significant impact to the visual resources with one exception. There may be additional light emissions visible once the upgraded lighting system is installed. The visual impacts of this project will be studied once a new lighting plan is available.

3.7 Water Resources

Congress enacted the Federal Water Pollution Control Act in 1948, which was expanded and reorganized into the 1972 Clean Water Act (CWA) (33 U.S.C. Section 1251 et seq.). The CWA regulates discharge of pollutants into water with sections falling under the jurisdiction of USACE and USEPA. Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into Waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act.

Under the National Pollutant Discharge Elimination System (NPDES) permitting process, the USEPA regulates both point and non-point pollutant sources, including stormwater and stormwater runoff. Activities that disturb one acre of ground or more are required to apply for an NPDES permit, through TDEC as authorized by USEPA. Section 401 water quality certification is required when obtaining a CWA 404 Permit.

Guidance for assessing a project's impact to water resources is detailed in Chapter 14 of the Desk Reference. Water resources include groundwater, surface water, floodplains, and wetlands. Combined, they form a single, natural system that is interconnected. Impact to one part of the system can have impacts on one or more other parts of the system. Wild and Scenic Rivers are also included because of the potential for obstructing free flowing water to these rivers by action that impacts water resources at a project site.

3.7.1 Affected Environment

This section describes an overview of existing water resources within the Project Site and the potential impacts on these water resources that would be associated with the Proposed Action.

3.7.1.1 Groundwater

Groundwater is water found in cracks and spaces in rocks and soil. The source of groundwater in western Tennessee is primarily from rainfall. When rain falls to the ground, it percolates through the soil and into the porous layer of rocks that make up the aquifer, a process known as recharging. Aquifers of sufficient size will store enough water that some can be withdrawn via wells. Based on a review of the U.S. Geological Survey's (USGS's) Groundwater Atlas of the United States, the Project Site is located over the Lower Wilcox

Aquifer (USGS, 1995).This aquifer is part of the wider Mississippi Embayment Aquifer, with an average of 48 inches of rain falling annually in its recharge area (USGS, 1995).

3.7.1.2 Surface Water

Surface waters are defined as open or flowing water features, typically consisting of streams, rivers, lakes, and ponds. Surface water features are further segregated as having perennial, intermittent, and ephemeral flow. Perennial waters are permanent surface water features present throughout the year. Intermittent classification is generally restricted to streams that have a well-defined channel but only contain water for part of the year. This is typically during the winter through spring, as the stream bed is below the water table during this time. Ephemeral streams are features that only flow in direct response to precipitation events and often have poor bed/bank development.

TDEC also designates certain surface water features that flow only in direct response to precipitation as wet weather conveyances (WWCs). These features are distinguished by the fact that ephemeral streams have an ordinary high-water mark (OHWM) and are potentially jurisdictional while WWCs do not have an OHWM and are not jurisdictional.

The Project Site is located within the Humboldt and Medina topographic quadrangles (Figure 3.1-1). The Project Site is located within the Moize Creek-Middle Fork Forked Deer River (080102040105) HUC-12 watershed, which is within the North Fork Forked Deer (08010204) HUC-8 watershed, which is ultimately within the Lower Mississippi – Hatchie River Basin.

On November 18, 2024, biologists performed a field survey within the Project Site to determine the presence or absence of jurisdictional waters. The USACE (USACE, 2010) and TDEC (TDEC, 2019) methodologies were utilized to determine the jurisdiction of wetlands and non-wetland waters.

As shown in Figures 3.7-2, 3.7-3, and 3.7-4 and Tables 3.7-1 and 3.7-2, three potentially jurisdictional surface water features were identified within the Project Site. These features include three intermittent streams (STR-1, STR-2, and STR-3). Additionally, there are four features that were identified as likely non-jurisdictional, consisting of two erosional swales (WWC/ES-1 and WWC/ES-2), a drainage ditch (D-1), and an isolated pond (P-1). In the No Access Area surface water features were delineated based on aerial imagery.

The features identified are detailed Attachment D. To determine if there are unrecorded surface water features in the No Access Area, access is required.

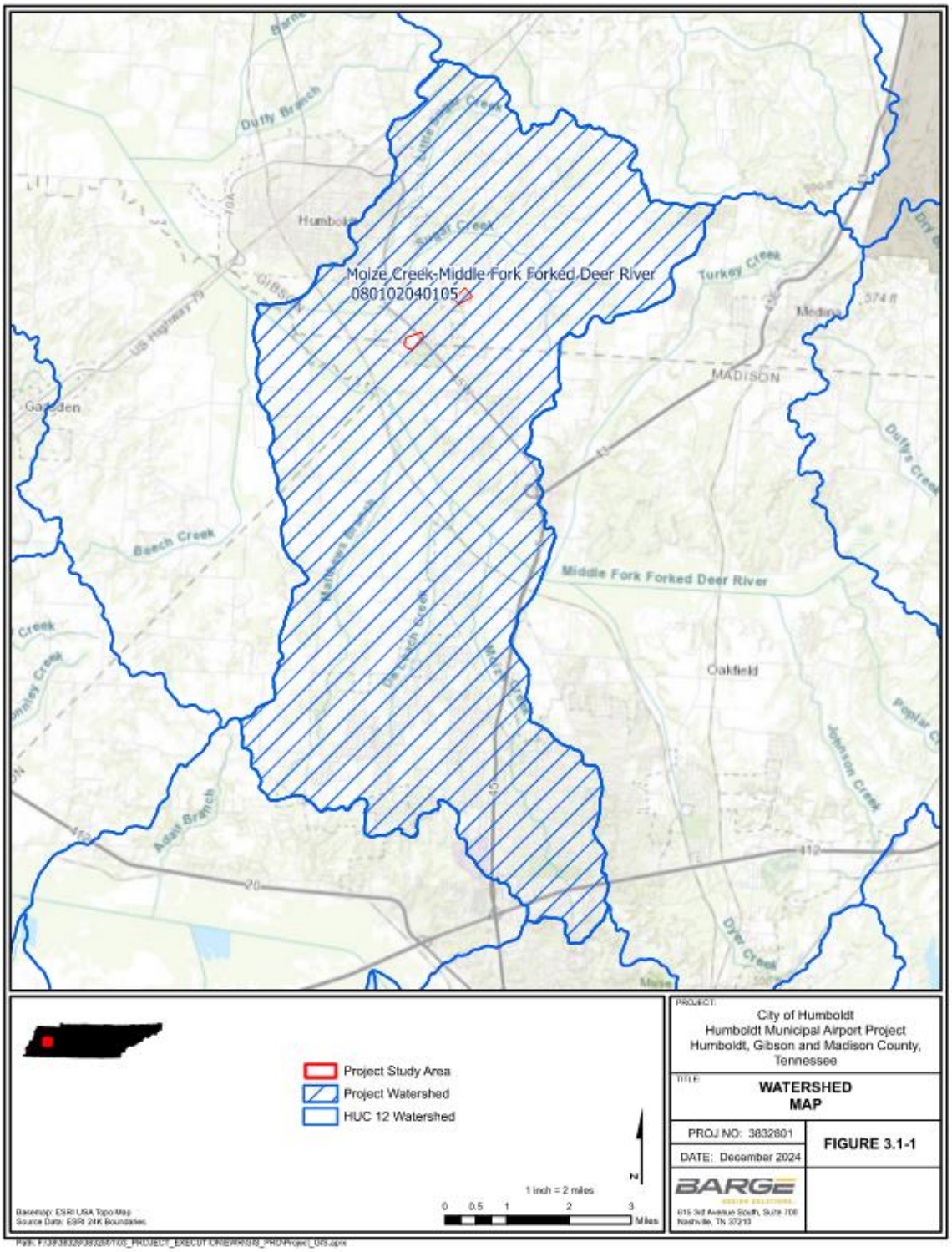

Figure 3.7-1 Watershed Map

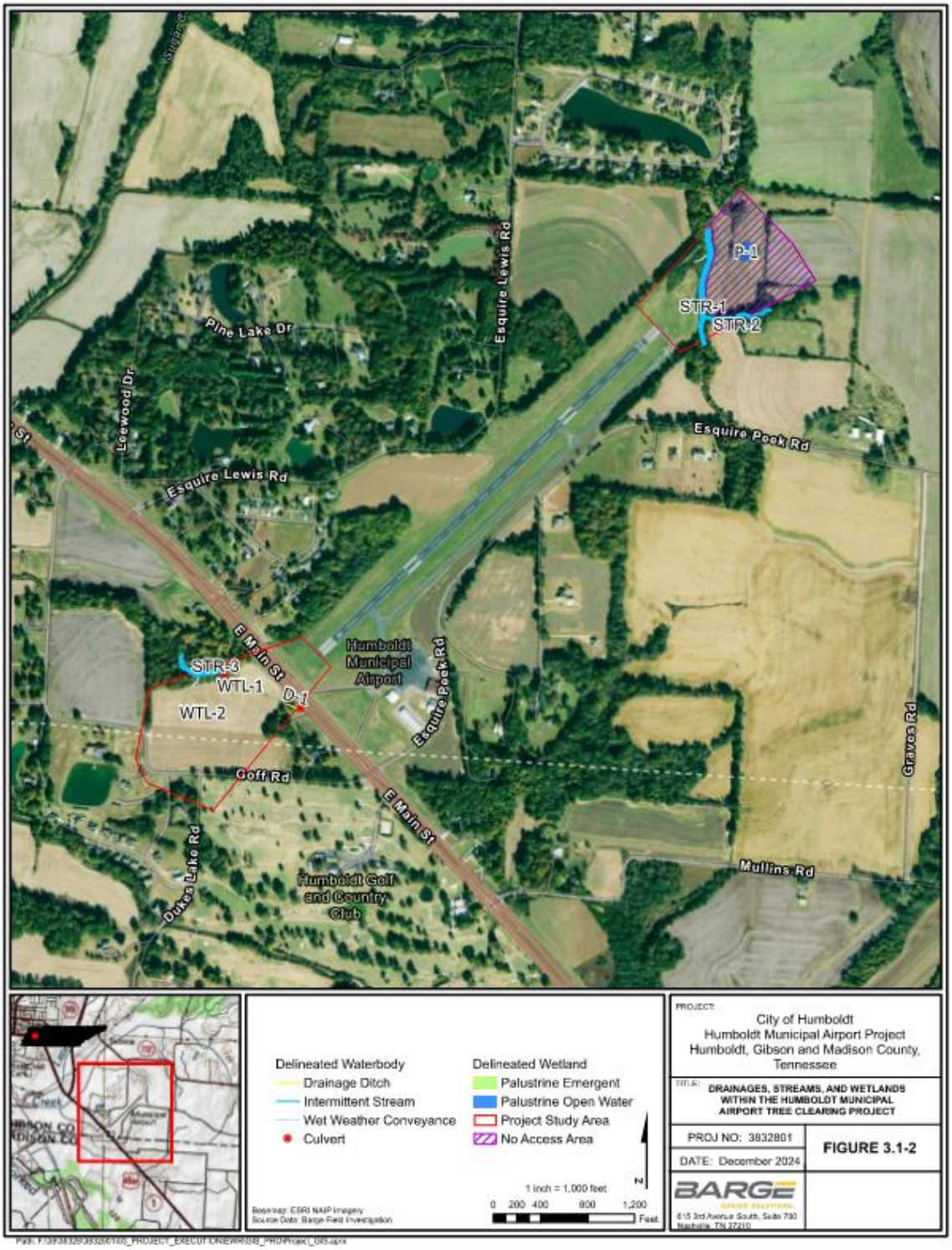

Figure 3.7-2 Drainages, Streams, and Wetlands Within the Humboldt Municipal Airport Tree Clearing Project

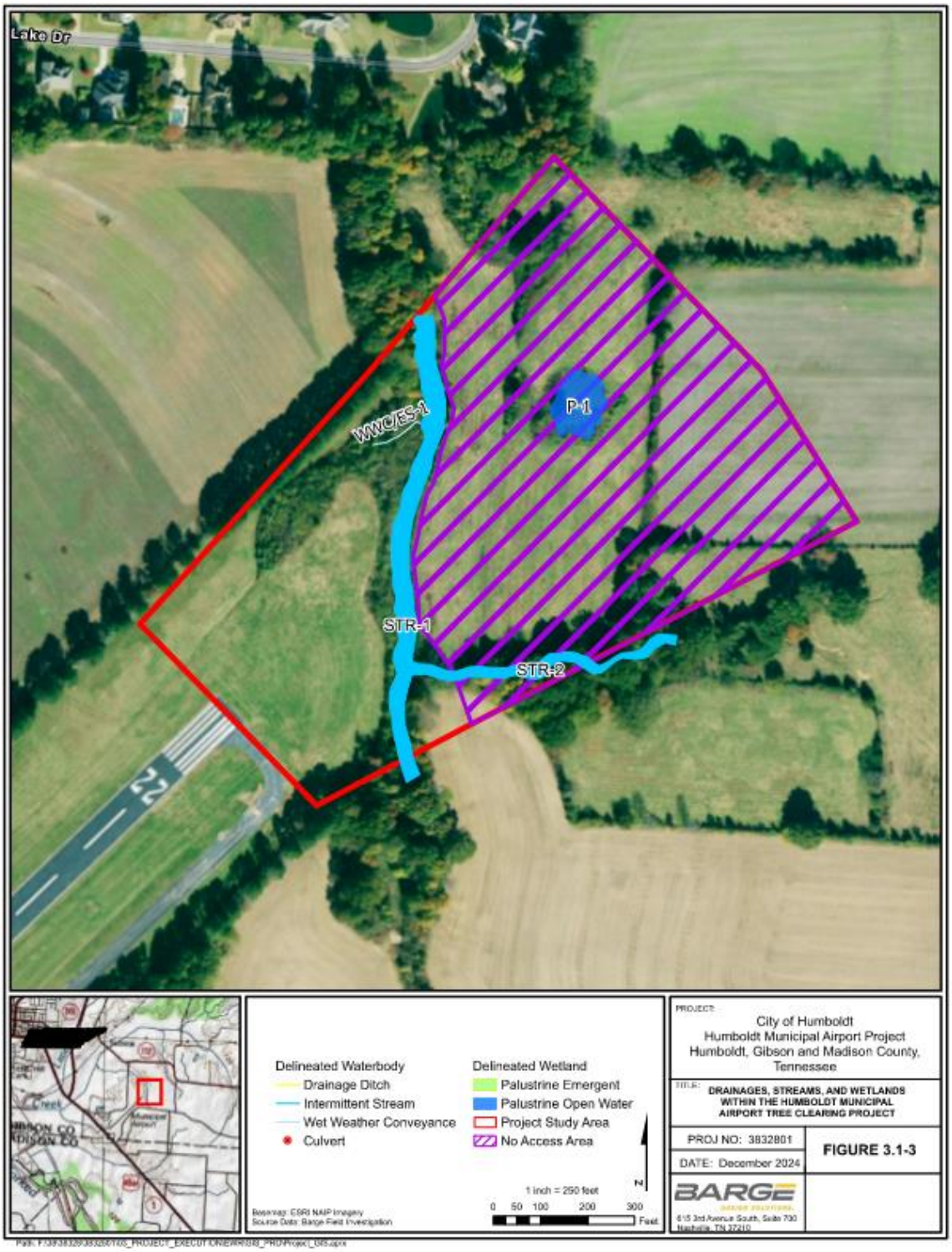

Figure 3.7-3 Drainages, Streams, and Wetlands Within Zone 2 of the Humboldt Municipal Airport Tree Clearing Project

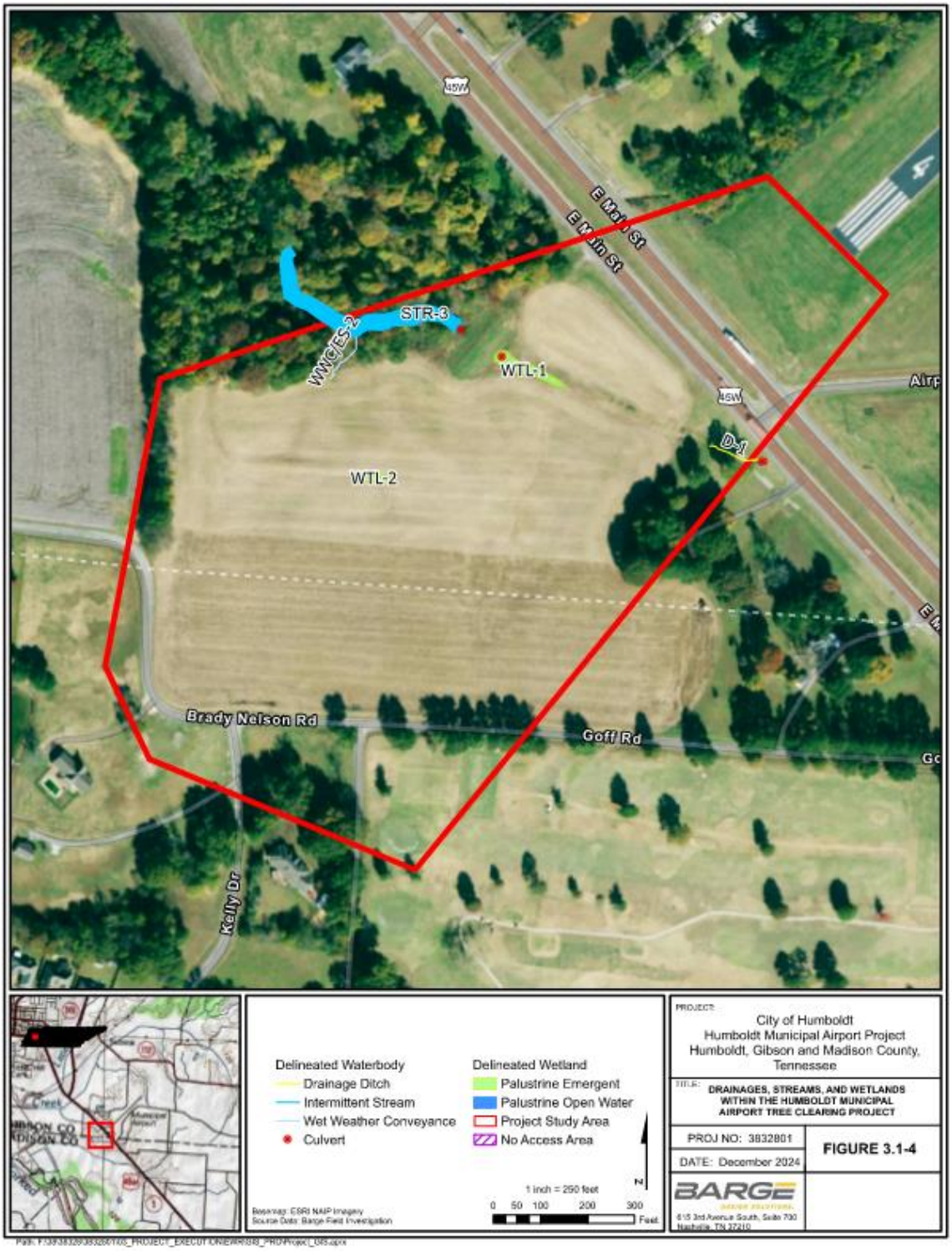

Figure 3.7-4 Drainages, Streams, and Wetlands Within Zone 1 of the Humboldt Municipal Airport Tree Clearing Project

Table 3.7-1 Streams, Swales, and Ditches Identified Within the Project Site

Waterbody I.D.	Description	Location Within Project Boundaries	Linear Feet within Project	HD Score	Federal Jurisdictional Status	State Jurisdictional Status
STR-1	Intermittent Stream	Start: 35.8057908, -88.8688986 End: 35.8084259, -88.8688886	980.8	29.75	Yes	Yes
STR-2	Intermittent Stream	Start: 35.8065875, -88.8670408 End: 35.8063773, -88.8689191	563.9	23.00	Yes	Yes
STR-3	Intermittent Stream	Start: 35.7977184, -88.8823672 End: 35.7981385, -88.8835816	377.8	31.00	Yes	Yes
WWC/ES-1	Erosional Swale	Start: 35.8076695, -88.8692489 End: 35.8077995, -88.8689087	117.7	14.75	No	No[2] (WWC)
WWC/ES-2	Erosional Swale	Start: 35.7973938, -88.8832775 End: 35.7976430, -88.8831003	121.4	15.75	No	No[2] (WWC)
D-1	Drainage Ditch	Start: 35.7970649, -88.880534 End: 35.7969942, -88.8801742	116.6	N/A	No	No

1: Federal jurisdiction status determined by relevant reach to RPW and NonRPW WOTUS or potential significant nexus
2: State Status determined by HD score (<19 is a WWC)

3.7.1.3 Floodplains

A floodplain is the relatively level land area along a stream or river that is subject to periodic flooding. The area subject to a 1 percent chance of flooding in any given year is normally called the 100-year floodplain. The area subject to a 0.2 percent chance of flooding in any given year is normally called the 500-year floodplain. It is necessary to evaluate work done within the 100-year floodplain to ensure that the project is consistent with the requirements of EO 11988, Floodplain Management. EO 11988 intends to ensure that floodplains and floodways are kept clear of obstructions and facilities that could restrict or increase flow rates or volumes during flood conditions. Encroachment is defined as any action that would cause the 100-year water surface profile to rise by one foot or more. The Federal Emergency Management Agency (FEMA) adopted the 100-year floodplain as the base flood for floodplain management. Both federal and state laws regulate development within floodplains and floodways (EO 11988, 1977).

According to FEMA's Flood Insurance Rate Maps (FIRMs), dated November 05, 2008 (Panel Numbers 47053C0392D and 47053C0415D), the Project Site lies outside of the 100-year and 500-year floodplains (Figures 3-7.5a, b)

3.7.1.4 Wetlands

Wetlands are defined by the USACE as "those areas that are inundated or saturated by surface or ground water 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" (USACE, 1987). Two potentially jurisdictional wetlands were observed within the Project Site (WTL-1 and WTL-2) (Figures 3.7-4, and Table 3.1-2). Both wetlands were observed as Palustrine Emergent (PEM) wetland features. Each wetland was verified with the positive identification of suitable hydrology, hydrophytic vegetation, and hydric soils according to the USACE Regional Supplement to the Corps of Engineers

Wetlands Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0 (USACE, 2010). To determine if there are unrecorded wetlands in the No Access Area, access is required.

The locations of the 0.09 acres of delineated wetlands are provided in Figure 3.7-4 and Table 3.7-2. The Atlantic and Gulf Coastal Plain Regional Wetland Determination Data Forms were completed at wetland and upland sample points and area provided in Attachment D.

Furthermore, a single man-made pond (P-1) totaling 0.28 acres was identified from aerial imagery within the No Access Area portion of the Project Site (Figures 3.7-2 and 3.7-3, and Table 3.7-2). This feature was identified as a Palustrine Open Water (POW) feature and is also described below. The details of the location and acreage are provided in the appendices of the Summary of Environmental Features for the Humboldt Municipal Airport Project.

Table 3.7-2 Wetlands Within the Project Site

Waterbody I.D.	Description	Location Within Project Boundaries	Acreage within Project	Federal Jurisdictional Status	State Jurisdictional Status
WTL-1	PEM	35.7974943, -88.8819265	0.07	Yes[1]	Yes
WTL-2	PEM	35.7968266, -88.8829503	0.02	Unlikely[1]	Yes
P-1	POW	35.8079392, -88.8677851	0.28	Unlikely[1]*	Unlikely[2*]

1: Federal jurisdiction status determined by observable connection to RPW and NonRPW WOTUS or is an isolated water
2: Isolated man-made farm pond and USDA soil survey indicates groundwater table depth connection to the pond
**: Isolation not confirmed in field observation.*

3.7.1.5 Wild and Scenic Rivers

The Wild and Scenic Rivers Act (PL 90-542, as amended) was implemented to facilitate the protection of rivers possessing “outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, or any other similar values.” The U.S. Department of the Interior (DOI) maintains a national inventory of river segments that appear to qualify for inclusion in the National Wild and Scenic River System.

According to the National Park Service National Rivers Inventory website, there are no river segments designated as Wild and Scenic Rivers in the vicinity of the project areas (NPS, n.d.). According to the TDEC Tennessee Scenic Rivers Website, there are no river segments designated as Tennessee Scenic Rivers in the vicinity of the project areas (TDEC, n.d.).

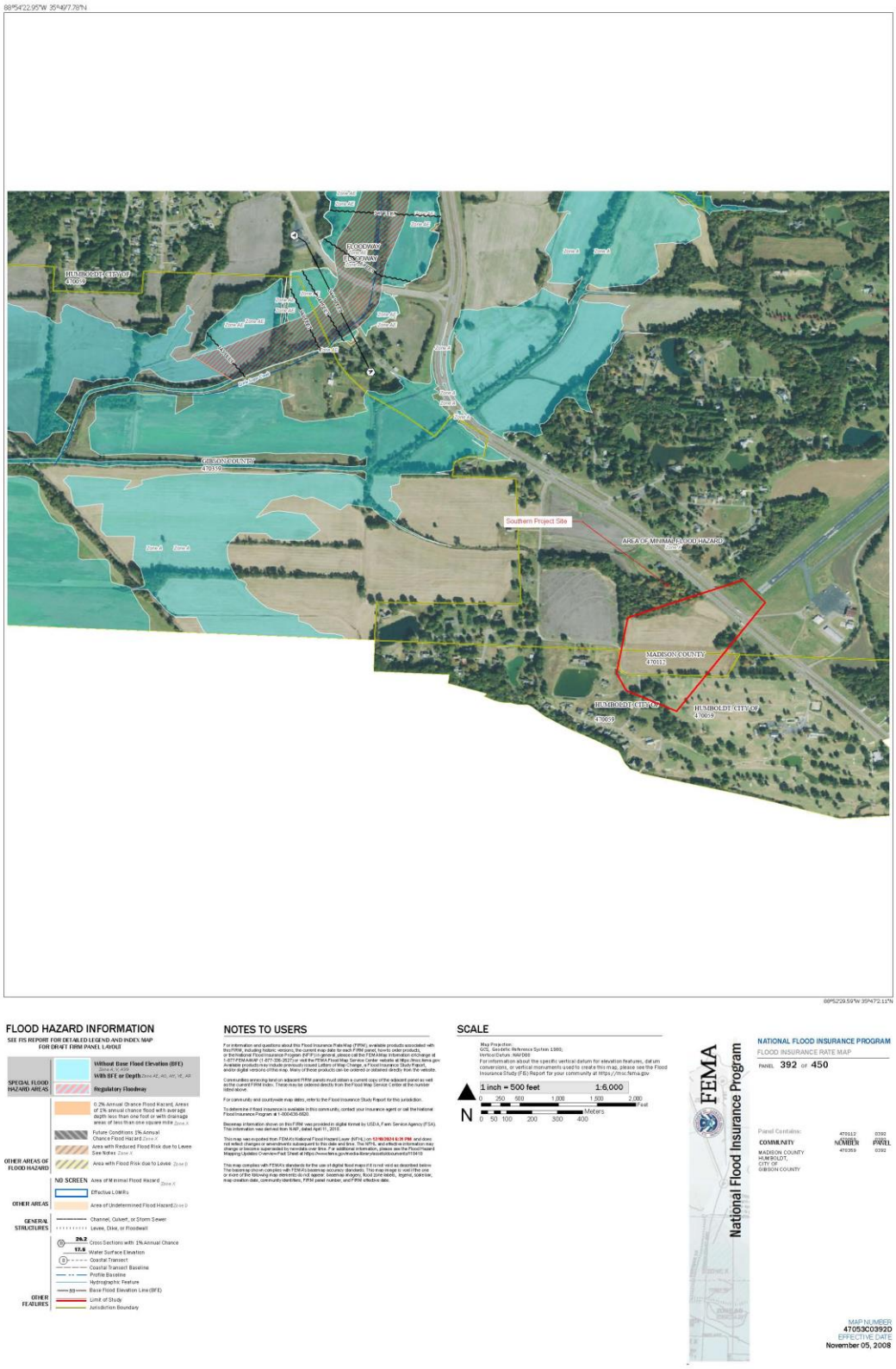

Figure 3-7.5a FEMA FIRM Map 47053C0392D

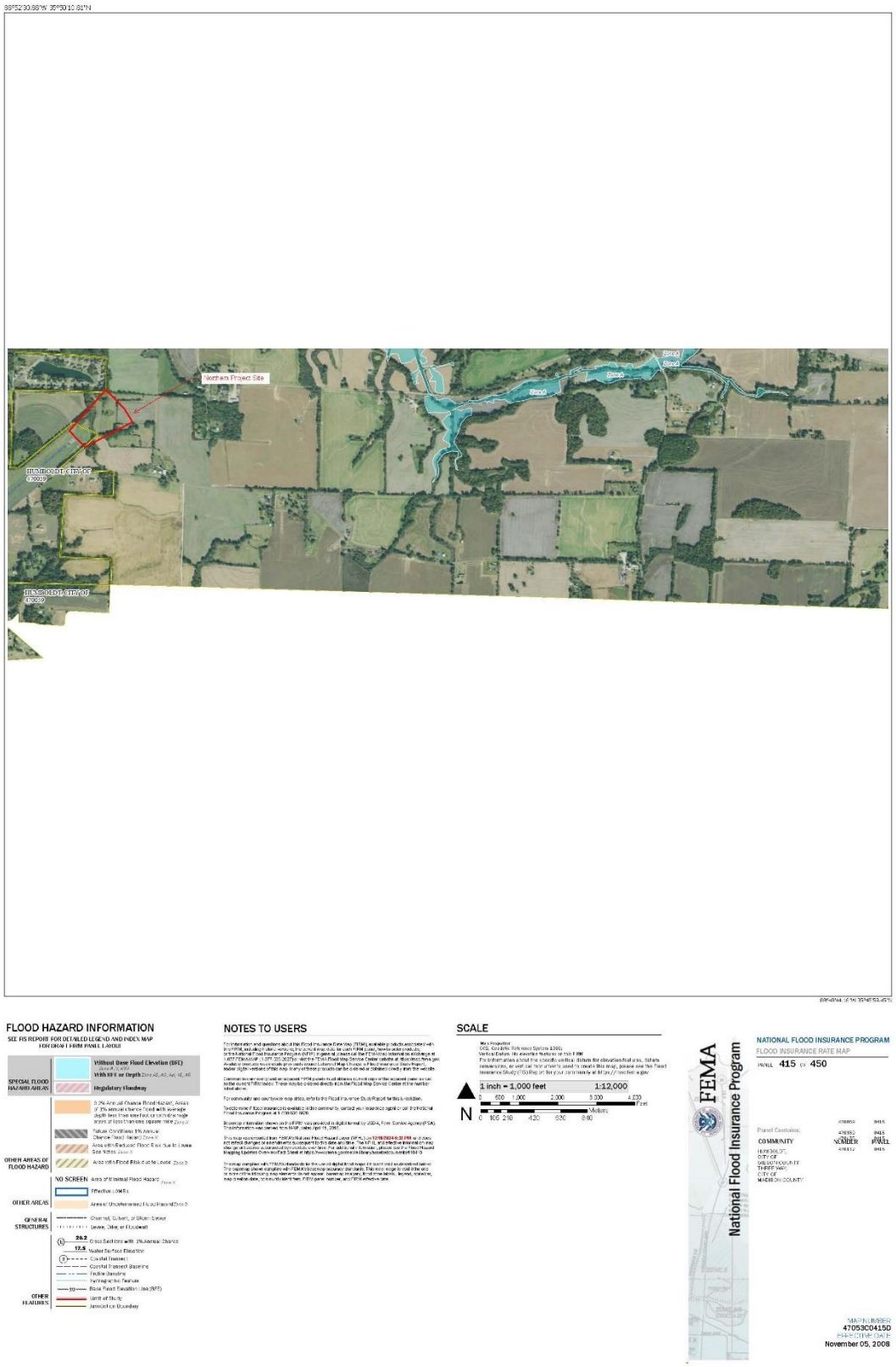

Figure 3-7.5b FEMA FIRM Map 47053C0415D

3.7.2 Environmental Consequences

3.7.2.1 No Action Alternative

Under the No Action Alternative, the proposed obstruction clearing would not take place. There would not be any direct project-related impacts to water resources. Direct and indirect impacts to water resources could result from runoff and erosion if land use were not maintained or changed in the future.

3.7.2.2 Proposed Action

Under the Proposed Action, no impact from the tree clearing would be expected to affect groundwater, surface water, or wetlands for the areas survey on the Project Site.

Groundwater

Overall, direct and indirect impacts to local aquifers and groundwater are not anticipated by implementing the Proposed Action Alternative due to the limited ground disturbance required from the tree clearing. The root balls from all downed trees will be left in place thus minimizing possible disturbances. Rainwater would not be impeded from regular routes of groundwater infiltration.

Surface Water

Crews cutting down trees in the upland areas adjacent to Streams 1 and 2 would access the site via an upland route. No trees to be removed are in the streams. However, less than one acre of the trees to be removed are on upland slopes down to the streams. To minimize potential erosion issues, trees in these areas will be cut down, left in place, and the root system will not be removed. A Stormwater Pollution Prevention Plan (SWPPP) will not be required because the area of sloped land where erosion would be an issue is less than the one-acre threshold for requiring a permit. For trees that are to be removed in the No Access Area, the same methods described above will be used. No physical alteration to the three streams or P-1 is anticipated from the tree clearing. Thus, a Section 404 permit from the USACE or an ARAP from TDEC will not be required.

If impacts to surface waters that require permits are found in the No Access Area, the City will consult with USACE and/or TDEC prior to beginning obstruction removal and obtain all necessary permits before beginning tree removal.

Floodplains

Because the Project Site lies outside of the 100-year and 500-year floodplains, implementing the Proposed Action will have no effect on floodplains and coordination with FEMA will not be required.

Wetlands

There are no trees in or near WTL-1 or WTL-2, thus there will be no impact to wetlands by implementing the Proposed Action. There will be no change to the status of either wetland as a result of obstruction removal. A Section 404 of the CWA (33 U.S.C. § 1251 et seq.) permit will not be required, thus no consultation with the USACE is required. Additionally,

implementing the Proposed Action would not impact any state jurisdictional wetland. Thus, an ARAP from TDEC will not be required.

3.7.2.3 Reasonably Foreseeable Effects

The RFEs from the short-term projects are not likely to impact any water resources as the work would not be done in any wetland or stream. The RFEs for long-term projects could impact some water resources. Until the plan for these projects are prepared, their impact on water resources cannot be determined.

CHAPTER 4 – LIST OF PREPARERS

Name/Education	Experience	Project Role
TDOT Aeronautics Division		
Barge Design Solutions		
Josh Abramson		
Kris Thoemke, Ph.D., CEP *B.S. Zoology* *Ph.D. Biology*	15 years NEPA experience; 30+ years' experience in environmental science	NEPA Project Coordinator Document Preparation
Cooper Read	11 years in regulatory compliance, preparation of NEPA/environmental review documents, protected species surveys, stream and wetland delineation, and permitting	Document Preparation Document Review

Frank Amatucci, TN-QHP *B.A Biology* *B.S. Environmental Science*	11 years in regulatory compliance, protected species surveys, stream and wetland delineation, permitting, and preparation of NEPA/environmental review documents	Field Work Document Preparation
Cameron Brueck, TN-QH—IT *B.S. Environmental Science* *B.S., Biology (Neurobiology)*	2 years conducting stream and wetland delineation, and habitat and vegetation assessments	Field Work Document Preparation
Dillon Swift		Field Work
Julie Atkerson	5 years' experience conducting editorial reviews of NEPA documents and technical reports	Editorial Review

CHAPTER 5 – LITERATURE CITED

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Attachment A – Obstruction Removal Study

MAG. DEC.

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RATE OF CHANGE - 0°5' W
(SOURCE: NOAA 11-10-2023)

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PROVIDED BY: NV5 GEOSPATIAL
SURVEY DATE: AUGUST 18, 2022

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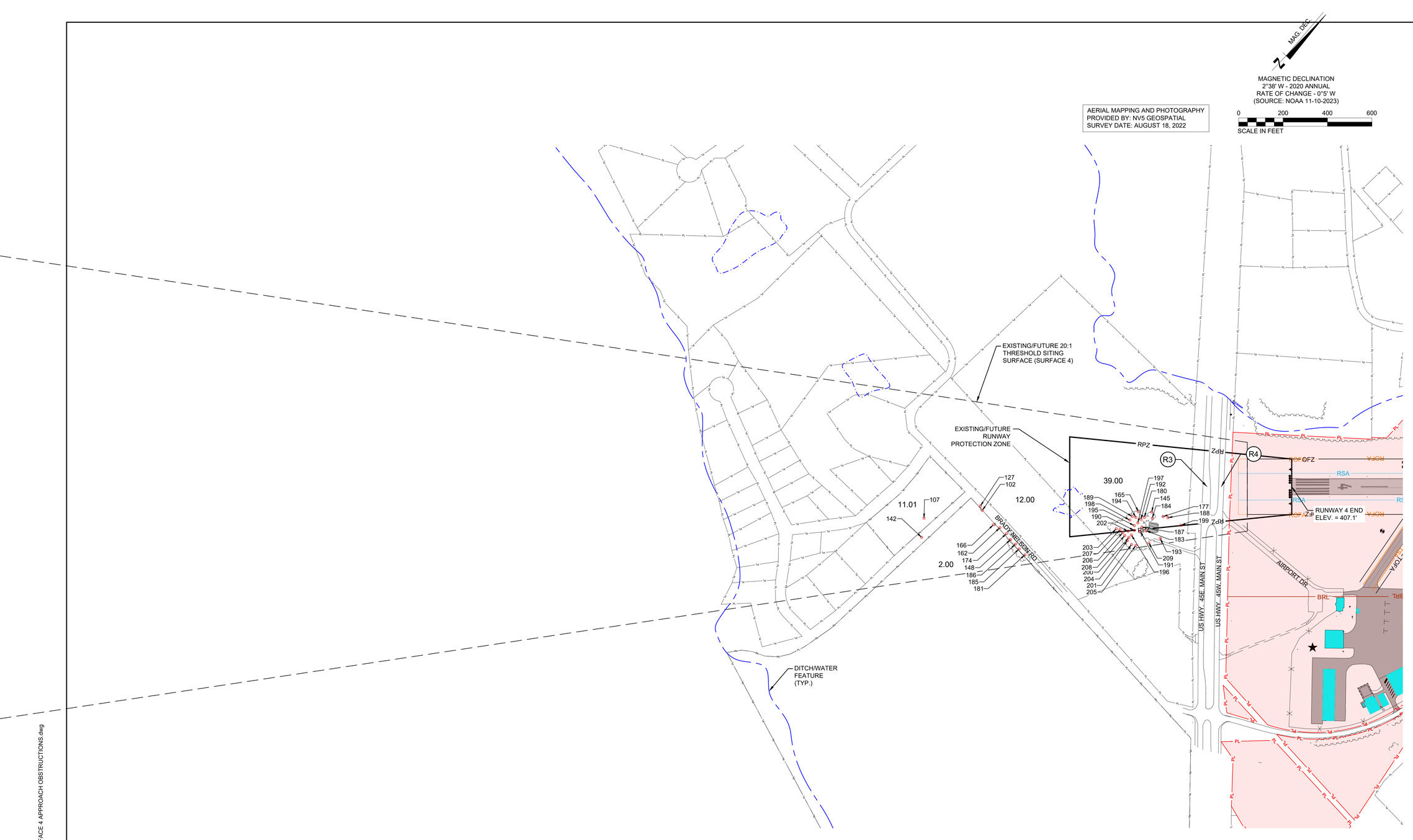

PROPERTY OWNERS

TRACT NO.	OWNER	BOOK NO.	PAGE NO.	CALCULATED ACREAGE
2.00	HUMBOLDT GOLF COURSE	573	414	78.8 Ac.
11.01	CRAIG MAURICE E ETUX	25	6004	2.0 Ac.
12.00	PARKER JOE PETE	772	496	8.8 Ac.
39.00	PARKER JOE PETE	1082	311	17.3 Ac.

BARGE DESIGN SOLUTIONS
65 Germantown Ct., Suite 103 Memphis, Tennessee 38018
PHONE (901) 751-5978 \ FAX (901) 755-7944

RWY 4 - SURFACE 4 APPROACH OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REV.	DR.	CHK.	DATE	REVISION INFORMATION / DESCRIPTION

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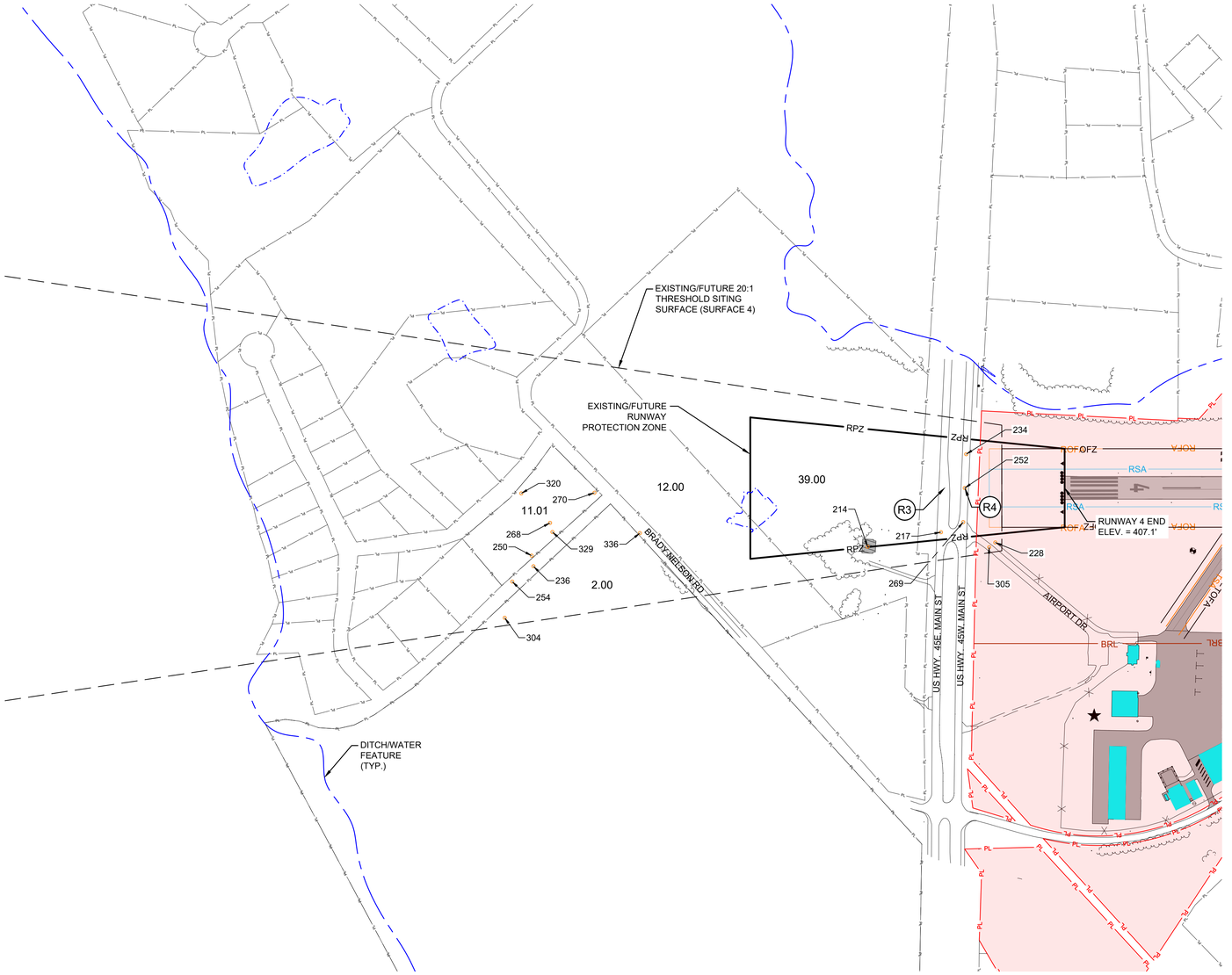

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11.01	CRAIG MAURICE E ETUX	25	6004	2.0 Ac.
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RWY 4 - SURFACE 4 APPROACH NEAR OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REVISION INFORMATION

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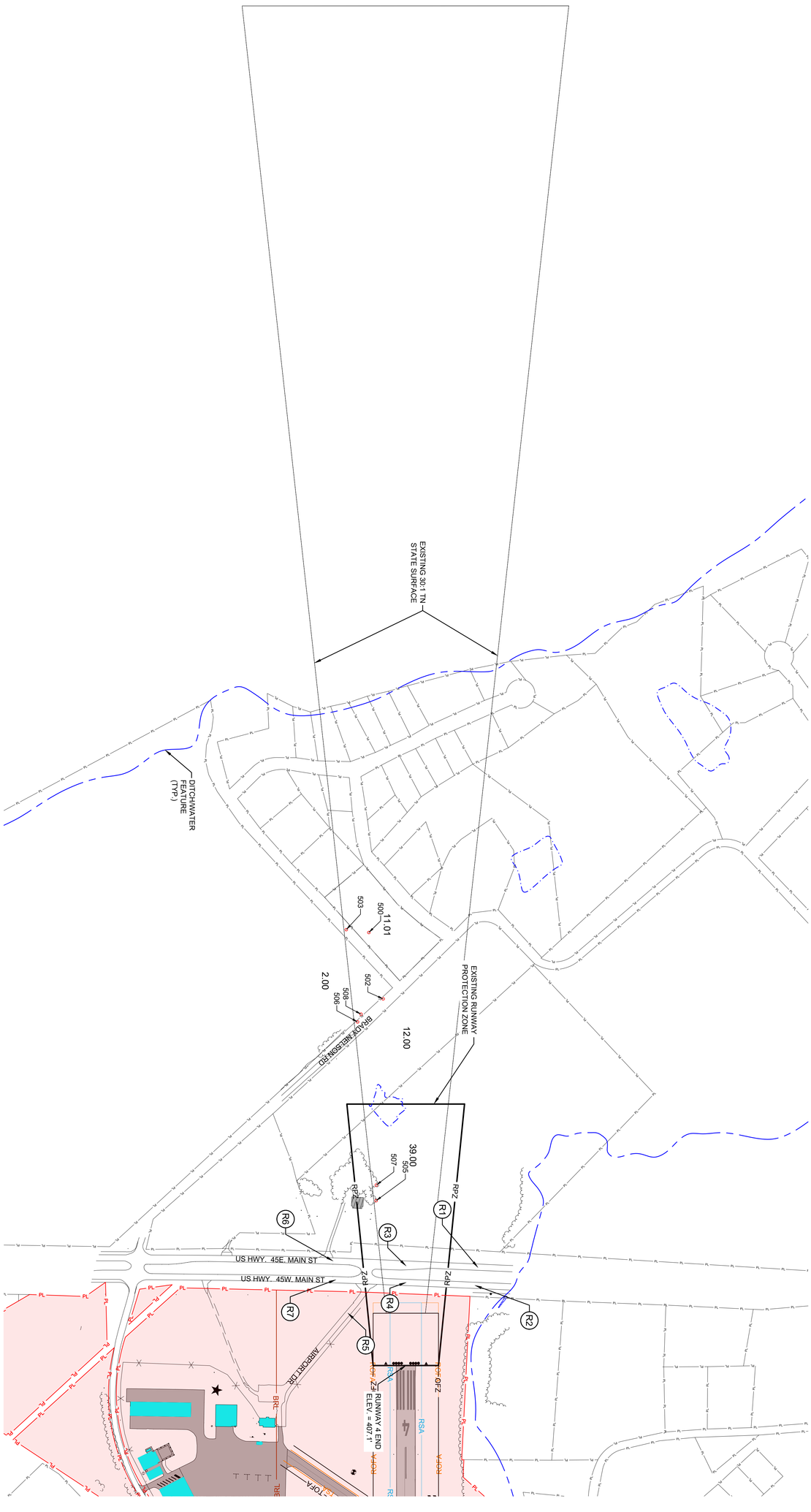

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39.00	PARKER JOE PETE	1082	311	17.3 Ac.

PROJ. NO. 38328-01

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REVISION INFORMATION

REV.	DR.	CHK.	DATE	DESCRIPTION

RWY 4 - TN STATE APPROACH OBSTRUCTIONS

OBSTRUCTION STUDY

HUMBOLDT MUNICIPAL AIRPORT

HUMBOLDT, TENNESSEE

T.A.D. PROJECT NO. XX-XXX-XXXX-XX

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PHONE (901) 751-5976 II FAX (901) 755-7944

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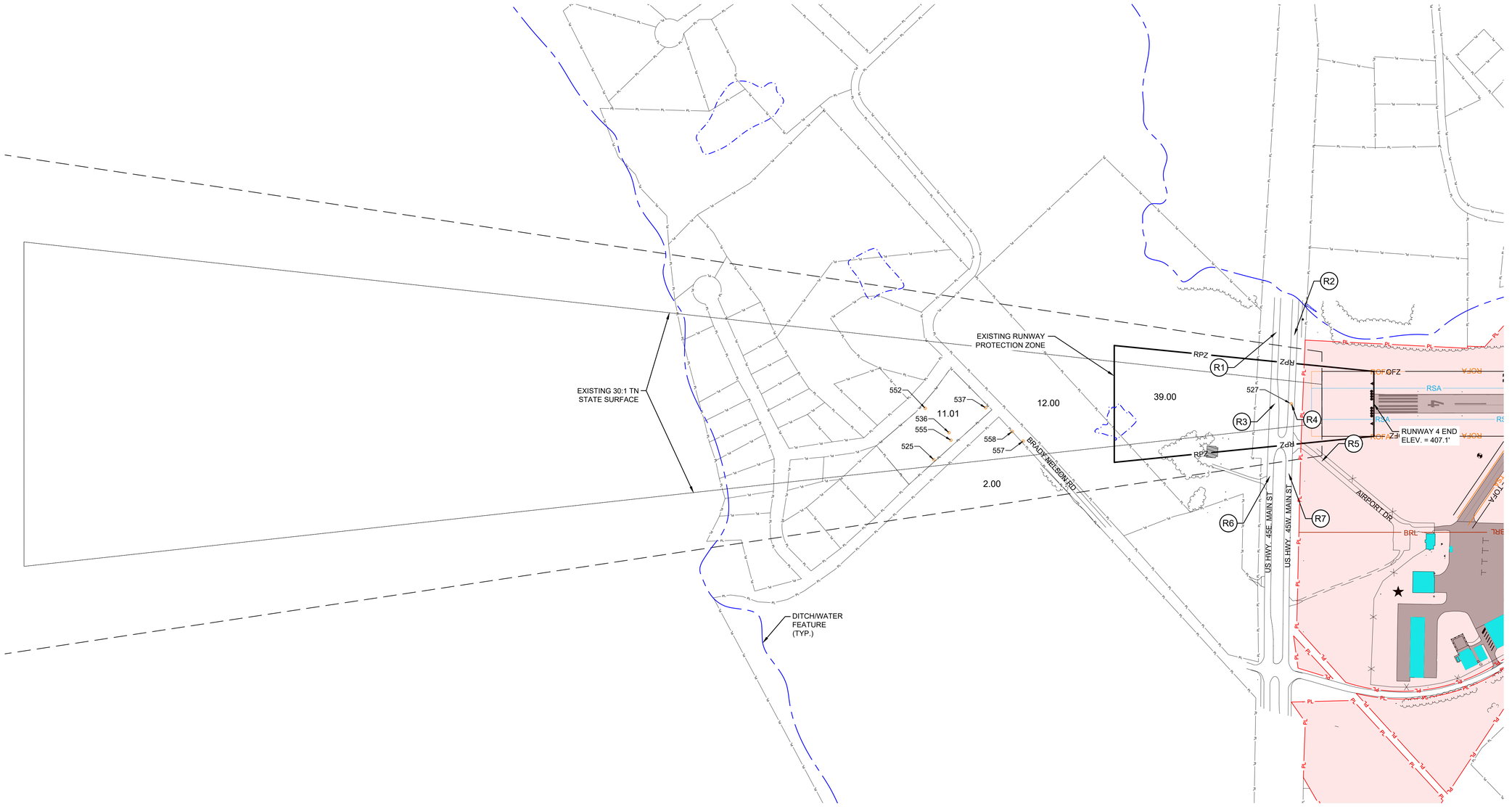

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RWY 4 - TN STATE APPROACH NEAR OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REVISION INFORMATION
REV. | DR. | CHK. | DATE | DESCRIPTION

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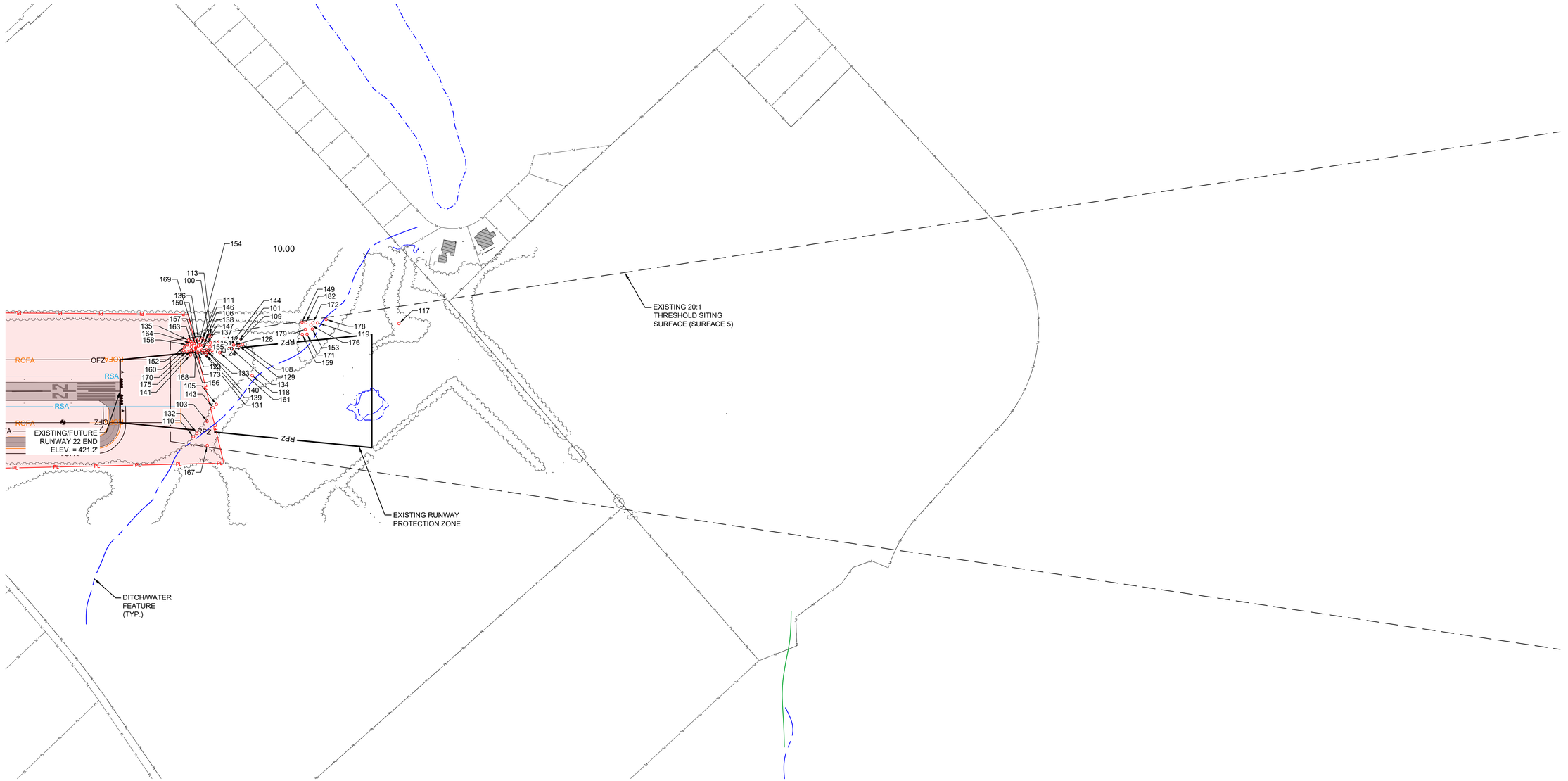

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BARGE DESIGN SOLUTIONS
65 Germantown Ct., Suite 103 Memphis, Tennessee 38018
PHONE (901) 751-5978 \ FAX (901) 755-7944

RWY 22 - SURFACE 5 APPROACH OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REVISION INFORMATION			
DESCRIPTION	DATE	CHK	DR

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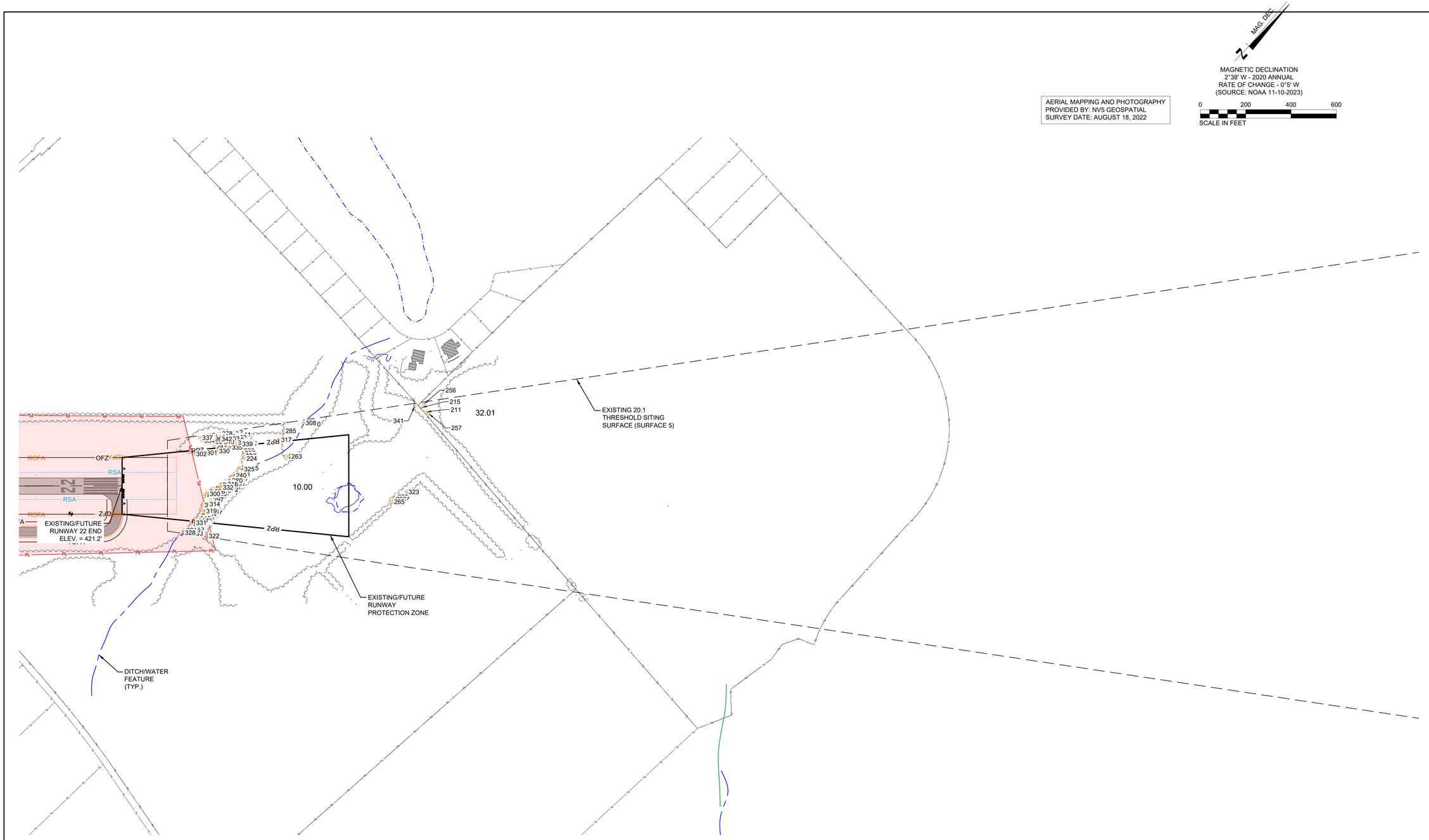

PROPERTY OWNERS

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32.01	GRAVES JAMES T JR & DIANNE G BARGER CO GRAVES CHILDRENS TRUST	1031	53	75.6 Ac.

BARGE DESIGN SOLUTIONS

65 Germantown Ct., Suite 103 Memphis, Tennessee 38018
PHONE (901) 751-5978 \ FAX (901) 755-7944

RWY 22 - SURFACE 5 APPROACH NEAR OBSTRUCTIONS

OBSTRUCTION STUDY

HUMBOLDT MUNICIPAL AIRPORT

HUMBOLDT, TENNESSEE

T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REVISION INFORMATION			
REV.	DR.	CHK.	DATE	DESCRIPTION

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AERIAL MAPPING AND PHOTOGRAPHY
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SURVEY DATE: AUGUST 18, 2022

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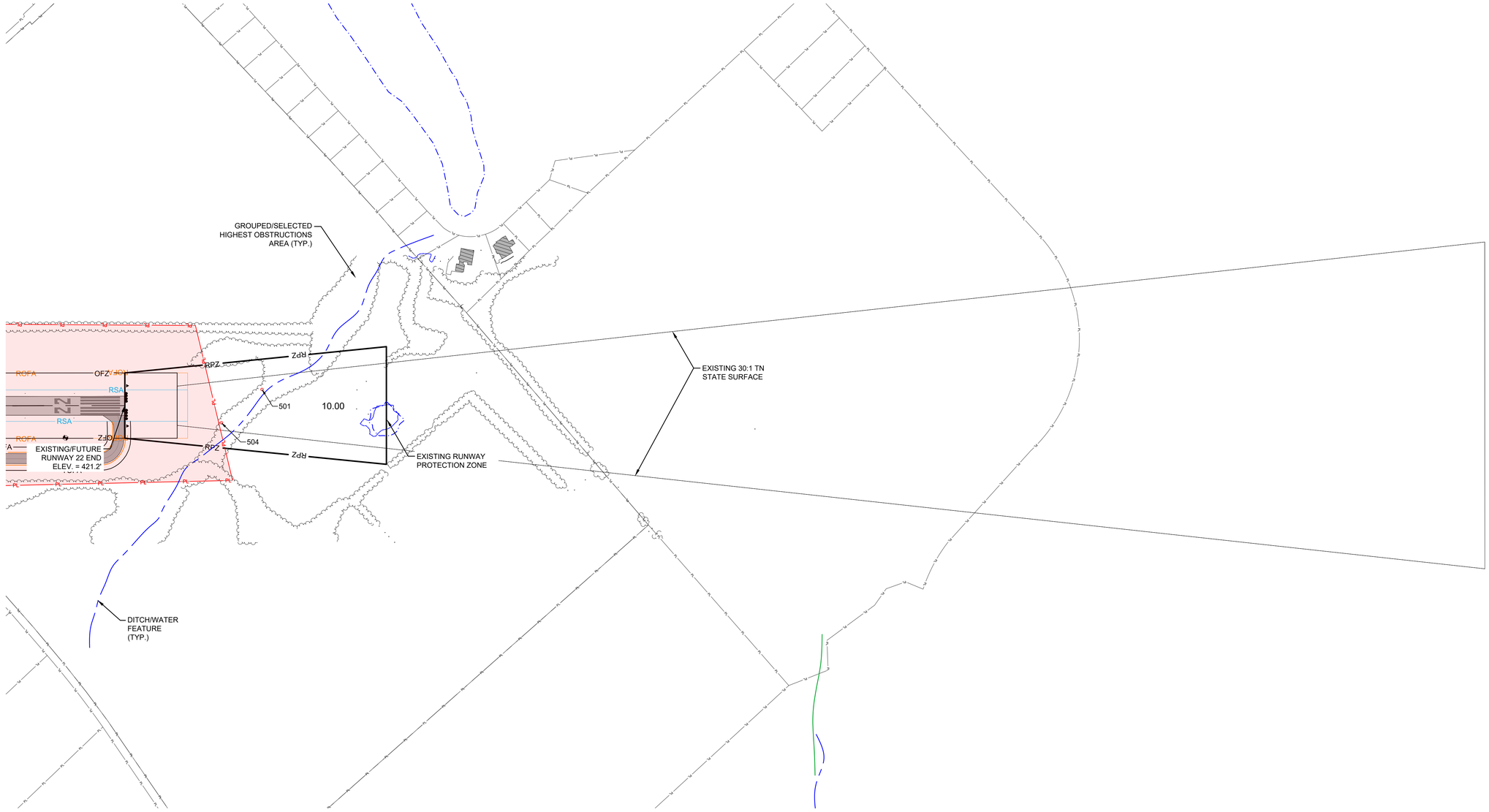

PROPERTY OWNERS

TRACT NO.	OWNER	BOOK NO.	PAGE NO.	CALCULATED ACREAGE
10.00	BARGER DIANNE G & JAMES T GRAVES JR C/O TRUSTEES GRAVES CHILDRENS TRUST	1036	2336	307.61 Ac.

BARGE DESIGN SOLUTIONS
65 Germantown Ct., Suite 103 Memphis, Tennessee 38018
PHONE (901) 751-5978 \ FAX (901) 755-7944

RWY 22 - TN STATE APPROACH OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REV.	DAT.	CHK.	DATE	DESCRIPTION

REVISION INFORMATION

8

PROJ. NO. 38328-01

USER:WJHARPER
FILE:F:\38\38328\38328010\4_CAD\AVIA\SHEETS\38328801_RWY 22_TN STATE APPROACH OBSTRUCTIONS.dwg
SAVED:3/11/2025
PLOTTED:3/11/2025

MAG. DEC.

MAGNETIC DECLINATION
2°38' W - 2020 ANNUAL
RATE OF CHANGE - 0°5' W
(SOURCE: NOAA 11-10-2023)

AERIAL MAPPING AND PHOTOGRAPHY
PROVIDED BY: NV5 GEOSPATIAL
SURVEY DATE: AUGUST 18, 2022

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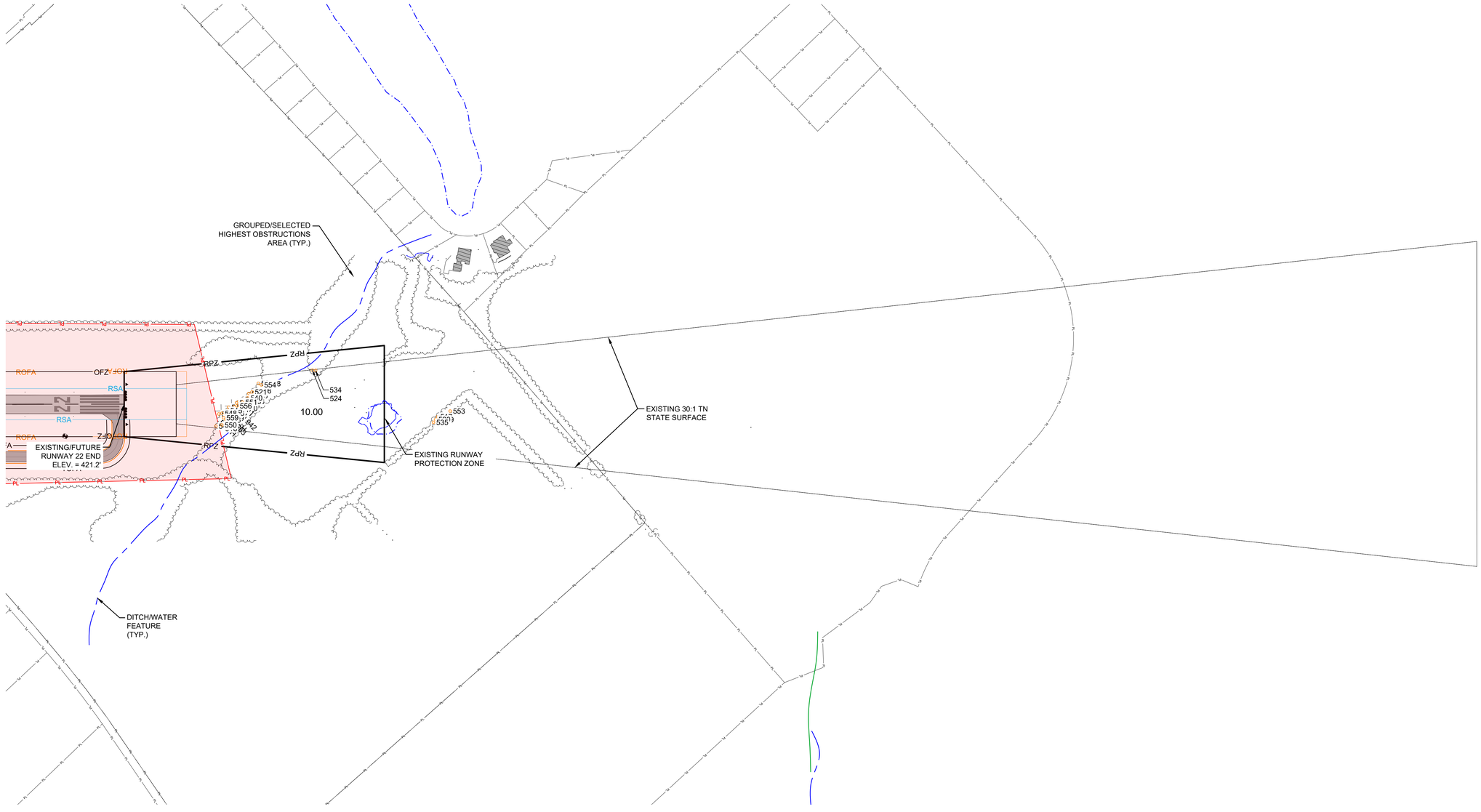
SCALE IN FEET



PROPERTY OWNERS

TRACT NO.	OWNER	BOOK NO.	PAGE NO.	CALCULATED ACREAGE
10.00	BARGER DIANNE G & JAMES T GRAVES JR C/O TRUSTEES GRAVES CHILDRENS TRUST	1036	2336	307.61 Ac.

BARGE DESIGN SOLUTIONS
65 Germantown Ct., Suite 150 Memphis, Tennessee 38018
PHONE (901) 751-5978 \ FAX (901) 755-7944

RWY 22 - TN STATE APPROACH NEAR OBSTRUCTIONS

OBSTRUCTION STUDY
HUMBOLDT MUNICIPAL AIRPORT
HUMBOLDT, TENNESSEE
T.A.D. PROJECT NO. XX-XXX-XXXX-XX

REV.	DR.	CHK.	DATE	REVISION INFORMATION DESCRIPTION

10

PROJ. NO. 38328-01

USER:WJHARPER
FILE:F:\38\38328\38328010\04_CAD\AVIA\SHEETS\3832801_RWY 22_TN STATE APPROACH-Near Misses.dwg
SAVED:3/11/2025
PLOTTED:3/11/2025

Attachment B – TDOT Environmental Determination Checklist

TN TDOT Department of Transportation

Environmental Determination Checklist

Airport Name & Identifier	Humboldt Municipal Airport
Project Name	Runway Obstruction Identification and Removal
Brief Project Description	Identify state and federal obstructions for removal. Obstruction will be removed on both ends of the runway.

Will the proposed action have the potential to cause a significant adverse impact to:

	Yes	No
1. Cultural resources (historic properties)		X
2. Properties protected under Section 4(f) of the Department of Transportation Act (public park, recreation area, wildlife or waterfowl refuge, or historic site of national, state or local significance)		X
3. Natural, ecological, or scenic resources of Federal, Tribal, State, or local significance (i.e., endangered species)		X
4. Resources protected by the Fish and Wildlife Coordination Act (i.e., wetlands, floodplains, coastal zones, national marine sanctuaries, wilderness areas, designated prime or unique farmland, energy supply or natural resources, or Wild and Scenic River)		X
5. A division or disruption of an established community, or disruption of planned, orderly development, or inconsistent with local plans		X
6. An increase in congestion from surface transportation (causes a decrease in level of service)		X
7. An impact on noise levels of noise sensitive areas		X
8. An impact on air quality		X
9. An impact on water quality, sole source aquifers, a public water supply, or state or tribal water quality standards		X

In addition, is the proposed project likely to:

	Yes	No
Be highly controversial on environmental grounds?		X
Be inconsistent with any Federal, State, Tribal, or local law relating to the environmental aspects of the proposed action?		X
Directly, indirectly, or cumulatively create a significant impact on the human environment (lighting, visual, land uses, hazardous materials contamination)?		X

Is the proposed project shown on the ALP? (Y/N) _____Y_____
Has a 7460 been completed and submitted? (Y/N) ____N_____
If a 7460 has been completed and submitted, please provide the OE/AAA case number _____

Additional Comments
A 7460 will be completed prior o construction. Obstruction will require owner permission and agreement to clear on property that is not owned by the City. We anticipate four to five property owners.

Certification

TN TDOT Department of Transportation

Environmental Determination Checklist

I certify that the information I have provided above is, to the best of my knowledge, correct. I also recognize and agree that no project activity, including but not limited to, site preparation, AGIS, surveys, demolition, or land disturbance, shall proceed for the above proposed project(s) until the TDOT Aeronautics Division and/or FAA issues a final environmental decision for the proposed project(s), and until compliance with all other applicable local, state, and Federal approval actions (e.g. ALP approval, airspace approval, grant approval, permits, or certifications) has occurred.

Benson Hadley — 1/24/2024

Preparer's Signature — Date

Benson Hadley, Senior Aviation Planner
Name and Title

Barge Design Solution
Company/Organization/Airport

615 3rd Ave South Nashville, TN 37205
Address

Marvin Sikes — 2/2/24

Airport Sponsor's Signature — Date

Marvin, Sikes, Mayor
Name and Title

TO BE COMPLETED BY TDOT

TDOT DECISION

Having reviewed the above information, certified by the responsible airport official, it is the TDOT decision that the proposed project(s) or development warrants environmental processing as indicated below:

- ☐ Memo to Record
- ☐ Simple Written Record
- ☐ Documented CATEX
- ☐ Short Form Environmental Assessment
- ☒ Environmental Assessment (EA)
- ☐ Environmental Impact Statement

Checklist Reviewed/Approved by:

Erin Burkle — 3/21/2024

Signature of Responsible TDOT Official — Date

DT-1952 (Rev. 01/2023) **RDA 11083**

Wetland Delineation
Coordination with TDEC Division of Water Resources, TDEC Division of Natural Areas, & USFWS

TN TDOT Department of Transportation

Environmental Determination Checklist

Attachment C – Public Comment and Response

To be added after comments are received from the Draft EA

Attachment D – Summary of Environmental Features of Humboldt Municipal Airport

SUMMARY OF ENVIRONMENTAL FEATURES FOR THE

HUMBOLDT MUNICIPAL AIRPORT PROJECT

HUMBOLDT, GIBSON & MADISON COUNTIES, TENNESSEE

Prepared For: City of Humboldt Municipal Airport

3832801
June 2025

CONTENTS

APPENDICES

EXECUTIVE SUMMARY

This Summary of Environmental Resources Report discusses wetlands and other waters observed onsite and the findings of the desktop assessment of potential rare, threatened, and endangered species that have the potential to occur within the proposed development of the Humboldt Municipal Airport Project for the City of Humboldt Municipal Airport (Gibson and Madison Counties). Barge Design Solutions, Inc. (Barge) prepared this technical report based on publicly available information for potential environmental constraints that may affect the proposed development and an onsite inspection for natural resources, which was conducted to identify jurisdictional water features within the project study area. This technical report provides narrative descriptions of the findings and associated figures based on desktop and onsite natural resource investigations conducted in November 2024.

A total of six likely jurisdictional and three potentially non-jurisdictional features were identified within the project study corridor, all of which were considered intermittent streams, erosional swales, ditches, emergent wetlands, and open water ponds. In addition to wetlands and other waters identified within the project study corridor, 5 state and federally listed species and 16 migratory birds were identified as potentially occurring in the project area. Potentially suitable habitat for four of the state and federally listed species and seven of the migratory bird species was observed within the project study area.

Based on the findings of the desktop analysis and onsite assessment of the project study area, the project could potentially impact six jurisdictional aquatic resources. Additionally, further study on four of the state and federally listed species could be required. Furthermore, coordination with the U.S. Fish and Wildlife Service (USFWS) and the Tennessee department of Environment and Conservation (TDEC) could be required prior to project construction.

1.0 INTRODUCTION

Barge has been retained by the City of Humboldt Municipal Airport to perform a natural resource investigation for the approximately 53.85-acre Humboldt Municipal Airport Project (project study area), located in Humboldt, Gibson and Madison Counties, Tennessee. However, a 14.60-acre area of the northeastern portion of the project study area was not able to be directly observed due to a lack of approved access from the current landowner. The northeastern portion of the project study area is located approximately 0.3 miles west of Whitman Road, approximately 0.4 miles south of Medina Highway, approximately 0.2 miles east of Esquire Lewis Road, and approximately 0.1 miles north of Esquire Peek Road, immediately northeast of the northern end of the airport runway. The southwestern portion of the project study area is located directly southwest of the airport runway and extends across East Main Street to just beyond Goff Road and Brady Nelson Road, terminating within portions of residential properties and the Humboldt Golf and Country Club. The project study area is comprised of portions of nine parcels detailed in the table below.

Parcels within the Project Study Area

Parcel Number(s)	Owner(s)	Acreage
178 010.00	Barger Dianne G & James T. Graves Jr. Co Trustees Graves Children's Trust	307.61
178 005.00	Humboldt Municipal Airport	107.7
179 030.00	Casey Joey Etux Rebecca	4.15
179 039.00	Parker Joe Pete	17.3
001 012.00	Parker Joe Pete	8.8
001 011.10	Reed Barry Etux Janice	4.24
001 011.05	Reed Barry Reed Etux	1.9
001 011.01	Craig Maurice E Etux	2.0
002 002.00	Humboldt Golf Course	78.8

Prior to visiting the project study area, a resource review of available background site information was conducted using the U.S. Fish and Wildlife Service's (USFWS's) National Wetland Inventory (NWI) database to determine if wetlands could be found within the area, as well as review with the Information for Planning and Consultation (IPaC) system for federally listed species. Topographic maps and the United States Geological Survey (USGS) National Hydrography Dataset (NHD) were also evaluated for potential jurisdictional waters. Additionally, major landscapes and vegetation units were identified using aerial imagery prior to surveying the study area. The United States Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS's) Web Soil Survey was reviewed to determine the soil makeup of the project study area.

On the date of November 18, 2024, Barge biologist Cameron Brueck (QHP-IT) and geologist Max Piehl performed an onsite investigation for the Humboldt Municipal Airport Project. The investigation included the delineation of wetlands and watercourses, as well as identification of vegetation communities and habitat types that may be suitable for protected species with the state and federal agencies. The findings of this technical report are detailed below, and the following appendices are included subsequent to this report.

- Appendix A – Figures
- Appendix B – NRCS Custom Soil Report
- Appendix C – Supplemental Tables
- Appendix D –Wetland and Stream Determination Data Forms
- Appendix E – Photographic Summary
- Appendix F – Rare, Threatened and Endangered Species List

2.0 SITE DESCRIPTION

The project study area is primarily utilized for aeronautical, residential, and agricultural purposes, and contains some wooded drainage corridors. The southeastern corner of the southwestern portion also extends into the Humboldt Golf and Country Club. A Project Location Map depicting the area can be found in Appendix A, Figure 1. The adjoining properties surrounding the project study area are comprised of agricultural, residential, and fragmented woodland areas, as well as the Humboldt Golf and Country Club to the southeast of the southwestern portion of the study area and the Humboldt Municipal Airport runway between the two study areas.

Both portions of the project study area are located beyond both ends of the Humboldt Municipal Airport runway in Humboldt, Gibson and Madison Counties, Tennessee (Appendix A, Figure 1). The project study area lies within the Humboldt and Medina, Tennessee, topographic quadrangles (Appendix A, Figure 2). Additionally, the project study area is located within the Moize Creek-Middle Fork Forked Deer River (080102040105) HUC-12 watershed, which is within the North Fork Forked Deer (08010204) HUC-8 watershed, which is ultimately within the Lower Mississippi – Hatchie River Basin (Appendix B, Figure 3).

The project study area also lies within two distinct ecoregions. The southwestern portion of the project study area is within the Mississippi Valley Loess Plains (74) Tennessee ecoregion and is further categorized into the Loess Plains (74b) sub-ecoregion region of Tennessee. This ecoregion is 250-500 feet in elevation and typically comprised of gently rolling, irregular plains with loess up to 50 feet thick. Agriculture within this ecoregion usually consists of soybeans, cotton, corn, milo, sorghum, and hay fields. Native woodland within the Loess Plains ecoregion is commonly comprised of oak-hickory forests grading into southern floodplain forests along large river systems. Many streams have been channelized due to agriculture and tend to be low gradient with silt and sand substrates. The northeastern portion of the project study area is within the Southeastern Plains (65) Tennessee ecoregion and is further categorized into the Northern

Hilly Gulf Coastal Plain (65e) sub-ecoregion of Tennessee. This ecoregion is categorized by north-south trending bands of sand and clay formations, elevations reaching over 650 feet, and more rolling topography as opposed to Loess Plains (74b). Streams exhibit increased gradient, sandy channel substrates, and distinct wildlife communities when compared to the western portions of Tennessee. Natural vegetative communities prior to anthropogenic disturbances were composed of oak-hickory forests that transition into oak-hickory-pine forests to the south.

3.0 SOILS

A total of nine soil units consisting of silt loams and one soil complex were identified onsite, none of which are considered hydric for Gibson or Madison Counties. The Lexington silt loam, 2 to 5 percent slopes, moderately eroded (LeB2) is the most dominant soil unit for the project study area and accounts for 31.7 percent of the project study area. The second most dominant soil unit within the project study area is Providence silt loam, 8 to 15 percent slopes, severely eroded (PrD3_1), which accounts for 23.6 percent of the project study area. A Soil Map can be found within Appendix A, Figure 4, and a Custom Soil Resource Report from the NRCS can be found in Appendix B.

4.0 VEGETATION

Land uses within the project study area were predominantly agricultural, residential, and fragmented woodland drainage corridors. Vegetative communities were observed as agricultural field, mixed hardwood forest, brushy cleared land, mowed lawn, and fallow field.

The fragmented mixed hardwood forests onsite consisted of sugar maple (*Acer saccharum*), sweetgum (*Liquidambar styraciflua*), red cedar (*Juniperus virginiana*), white oak (*Quercus alba*), red mulberry (*Morus rubra*), shagbark hickory (*Carya ovata*), greenbrier (*Smilax rotundifolia*), sawtooth blackberry (*Rubus argutus*), multiflora rose (*Rosa multiflora*), and black walnut (*Juglans nigra*). This vegetative community was most commonly observed along drainage corridors and streams present onsite. The brushy cleared land was observed with evidence of recent tree or shrub clearing and consisted of poison hemlock (*Conium maculatum*), sumac (*Rhys spp.*), sycamore (*Platanus occidentalis*), johnson grass (*Sorghum halepense*), *sawtooth blackberry*, narrowleaf plantain (*Plantago lanceolata*), and field thistle (*Cirsium discolor*). These early successional species likely colonized the area after vegetative maintenance occurred in the area.

Vegetation in the agricultural fields located onsite consisted of remnants of soy crops (*Glycine max*) from the previous growing season, as well as johnson grass, white clover (*Trifolium repens*), and yellow foxtail (*Setaria pumila*) along the field margins. Residential and mowed or maintained areas consisted primarily of red fescue (*Festuca rubra*), Bermuda grass (*Cynodon dactylon*), white clover, and narrowleaf plantain. These areas were primarily located within the Humboldt Golf and Country Club, residential yards, and maintained areas within the Humboldt Municipal Airport. A fragmented fallow field area located on a berm within the project site was observed with

a dominance of broomsedge bluestem (*Andropogon virginicus*), as well as smaller components of johnson grass and yellow foxtail.

5.0 WATER RESOURCES

On November 18, 2024, a Barge biologist and geologist performed field surveys within the project study area to determine the presence or absence of jurisdictional waters. Both the U.S. Army Corps of Engineers (USACE) and TDEC methodologies were utilized to determine the jurisdiction of wetlands and non-wetland waters within the project study area.

A total of six likely jurisdictional and three potentially non-jurisdictional features were identified within the project study area, all of which were considered as intermittent streams, erosional swales, ditches, wetlands, or ponds. The sections below detail the features that were delineated within the project study area. The features identified onsite are listed in Table 1 and Table 2 (Appendix B) and are displayed in Figure 6 – Existing Conditions Map (Appendix A).

5.1 Non-Wetland Waters

Lead Scientist Cameron Brueck (QHP-IT) and geologist Max Piehl conducted the hydrologic determination (HD) site investigation in accordance with TDEC Rule 0400-40-17-.04. In addition, water features were considered regarding the USACE Regulatory Guidance Letter No. 05-05. The November 18, 2024, site visit was conducted more than 48 hours following a significant rain event of greater than 1.0 inch in a 24-hour period. No rainfall was observed within the 96 hours prior to the site investigation. Upon commencement of the study, 1.04 inches of rain (CoCoRaHs # TN-GB-18) was observed in the preceding seven days of November 18, 2024. In the preceding 30 days, 4.34 inches of rain was observed. The precipitation for the preceding three months is considered “wetter than normal” based on the Antecedent Precipitation Tool (Appendix C).

Within the project study area, three intermittent streams (STR), two erosional swales (WWC/ES), and one roadside ditch (D) were delineated. These waterbody features were based on primary and secondary indicators while conducting the HD. Below are brief descriptions of the delineated waterbody features within the project study area. Figure 6 – Existing Conditions Map (Appendix A) illustrates their locations within the project study area, and Table 1 (Appendix C) details the locations and lengths of each feature. Photographs of each feature are provided in Appendix E, and the HD data forms are provided in Appendix D.

5.1.1 Non-Wetland Waters Descriptions

STR-1 was observed as an intermittent stream that bisects the northeastern portion of the project study area, originating offsite from the south and flowing through a forested corridor within the project study area offsite to the north. A short distance offsite, a man-made structure across the channel results in a ponded section of the stream. The feature was observed with a strong and heavily incised bed and bank throughout. Frequent ordinary high-water mark (OHWM) indicators such as a defined channel, a change in plant community, and sediment sorting were observed. Large pools of standing water were present in the lower reach of the feature although no

discernable flow could be seen, and hydric, saturated soils within the channel were also observed. The channel bottom is composed of clay with overlying deposits of sand and gravel sorted into bars and benches. Isopods, amphipods, and adult frogs were observed, as well as hydrophytic vegetation growing in the channel such as black willow (*Salix nigra*). STR-1 is assumed to be jurisdictional to the USACE as a relatively permanent water (RPW) and TDEC as a stream.

STR-2 was observed as an intermittent stream in the northeastern portion of the project study area that drains into STR-1. The upper reach of the feature extends into the portion of the project study area that was not able to be directly observed due to a lack of access permission from the current landowner. Therefore, the upper reach of the stream was estimated using a terrain map and the HD data form was completed for the lower 150 feet of the reach that could be accessed. The feature was observed with a strong and heavily incised bed and bank. Frequent OHWM indicators such as a defined channel, wrested vegetation, and sediment sorting were observed. A few pools of standing water were observed within the lower reach although no discernable flow could be seen, and hydric, saturated soils were observed in the channel bottom. The channel bottom is composed of clay with overlying deposits of sand and some gravel. STR-2 is assumed to be jurisdictional to the USACE as an RPW and TDEC as a stream.

STR-3 was observed as an intermittent stream in the southwestern portion of the project study area that originates from a culvert outfall below a constructed berm wall, draining WTL-1 and the adjacent agricultural field and flowing offsite to the northwest. The feature was observed with a strong and heavily incised bed and bank. Multiple pools and standing water were present throughout most of the thalweg, as well as hydric soils, although flow was not discernable. Frequent OHWM indicators such as a defined channel, a lack of plants, and sediment sorting were observed. The channel bottom is composed of clay with overlying deposits of sand and gravel sorted into bars and benches, as well as some cobble in the upper reach. A couple adult frogs, amphipods, and isopods were observed within the feature. STR-3 is assumed to be jurisdictional to the USACE as an RPW and TDEC as a stream.

WWC/ES-1 was observed as an erosional swale in the northeastern portion of the project study area that originates within a recently cleared area and drains runoff from the airport runway to the north into STR-1. An inconsistently defined bed and bank was present and infrequent OHWM indicators were detected, such as a wrack lines. No surface water or saturation was present within the reach during the site visit, and no hydric soils were observed within the channel. No substrate sorting was observed within the channel, which was composed of eroded clay and sand and included a detectable presence of fibrous roots. WWC/ES-1 is assumed to be non-jurisdictional to the USACE as a non-RPW and TDEC as a wet weather conveyance (WWC).

WWC/ES-2 was observed as an erosional swale that originates from an agricultural field in the southwestern portion of the project study area. The feature flows north where it forms a confluence with STR-3. An inconsistently defined bed and bank was present and infrequent OHWM indicators

were detected, such as wrack lines. No surface water or saturation was present within the reach during the site visit, and no hydric soils were observed within the channel. No substrate sorting was observed within the channel, which was composed of eroded clay and sand and included a detectable presence of fibrous roots. WWC/ES-2 is assumed to be non-jurisdictional to the USACE as a non-RPW and TDEC as a WWC.

D-1 was observed as a roadside ditch located in the southwestern portion of the project study area. This ditch drains highway roadside runoff from a culvert before dissipating into overland sheet flow within an agricultural drainage with upland soils. The feature is lined with rip rap to prevent erosion and has no clearly defined bed and bank. D-1 is assumed to be non-jurisdictional to the USACE and TDEC.

5.2 Wetlands

A total of two wetlands were observed within the project study area. All wetlands were observed as Palustrine Emergent (PEM) wetland features. Each wetland was verified with the positive identification of suitable hydrology, hydrophytic vegetation, and hydric soils according to the USACE *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, Version 2.0*. Below are brief descriptions of the delineated wetland features within the project study area. The locations of the delineated wetlands are provided in Figure 6 – Existing Conditions Map (Appendix A), and Table 2 (Appendix C) details the location and acreage of each wetland. The Atlantic and Gulf Coastal Plain Regional Wetland Determination Data Forms were completed at wetland and upland sample points and are provided in Appendix D, and photographs of each wetland feature are provided in Appendix E.

Furthermore, one pond (P) was located within the denied access area in the northeastern portion of the project study area. The limits of the feature were estimated using aerial imagery, which was identified as a Palustrine Open Water (POW) feature and is also described below. The details of the location and acreages are provided in Appendix A and Appendix C, respectively.

5.2.1 Wetland Descriptions

WTL-1 was observed as a PEM wetland in the southwestern portion of the project study area. The wetland was likely formed from the construction of a berm wall within an agricultural field that causes runoff to pool prior to draining into an inlet structure that leads to STR-3. Additionally, the feature likely receives runoff from the adjacent agricultural field and roadside drainage along East Main Street. WTL-1 was observed with a presence of saturation in the upper soils, drainage patterns, and geomorphic position, indicating positive wetland hydrology. The wetland was observed with a dominance of hydrophytic vegetation such as oriental lady's thumb (*Persicaria longiseta*), curly dock (*Rumex crispus*), yellow foxtail, seedbox (*Ludwigia alternifolia*), red canary grass (*Phalaris arundinacea*), and fall panic grass (*Panicum dichotomiflorum*). Hydric soils were also documented in WTL-1, which were observed as depleted gray soils with a presence of prominent redoximorphic concentrations. WTL-1 is assumed to be jurisdictional to TDEC and to the USACE due to its observable connection to other RPWs.

WTL-2 was observed as a small depressional PEM wetland above a berm within an agricultural field, located within the southwestern portion of the project study area. The isolated wetland likely collects surface water from the surrounding agricultural field and did not exhibit a continuous surface connection to other RPWs. WTL-2 was observed with saturation in the upper soils, 3 inches of standing water, and geomorphic position, indicating positive wetland hydrology. The wetland was observed with a dominance of hydrophytic vegetation such as valley red stem (*Ammannia coccinea*), fall panic grass, and yellow nut sedge (*Cyperus esculentus*). Hydric soils were also documented in WTL-2, which were observed as depleted gray soils with a presence of prominent redoximorphic concentrations. WTL-2 is assumed to be jurisdictional to TDEC but potentially non-jurisdictional to the USACE due to its lack of observable surface connection to an RPW.

P-1 was unable to be directly observed due to a lack of landowner permission to access areas in the northeastern portion of the project study area. After review of aerial imagery, this feature was classified as a POW feature. While this feature appears to be a man-made isolated farm pond, this could not be confirmed due to the lack of access to the area. P-1 is assumed to be potentially jurisdictional to the USACE and TDEC but could be ruled potentially non-jurisdictional if isolation is confirmed.

6.0 WILDLIFE

Native wildlife was observed throughout the project study area and was detected either by visual identification, tracks, scat, or other signs. Identified wildlife were observed utilizing the fragmented forested portions of the site and the surrounding residential and agricultural environments. A list of wildlife species observed during the November 18, 2024, site visit of the project study area is provided in Table 4 of Appendix C. The observed wildlife species list is a preliminary species presence record for the project study area and can be seasonally biased.

7.0 FEDERAL AND STATE LISTED SPECIES

The USFWS IPaC online resource was reviewed for potential presence of federally listed animal and plant species within the project study area. A total of four federally listed species were identified as being potentially present within the project area, of which three are currently listed as proposed species. Additionally, the TDEC online rare species search was also utilized to identify potential state listed species within the project study area. The search criteria included a query within the project's topographic quadrangles, Humboldt and Medina, and a search within the project's HUC-12 watershed, Moize Creek-Middle Fork Forked Deer River (080102040105). The publicly available records indicated one additional state listed threatened species within the Humboldt topographic quadrangle. Table 5 in Appendix C details the listed species for the project area.

Below details the species that were identified as potentially occurring within the project area based on the USFWS IPaC and TDEC rare species searches. The conclusions of each species are based on the field findings during the November 18, 2024, site visit. Table 5 in Appendix C lists all of the federal and state listed species potentially occurring for the project and briefly details their preferred habitat parameters, as well as conclusions if the species could occur for the project. Furthermore, both the official USFWS IPaC and the TDEC rare species data viewer search results are provided in Appendix F.

7.1 Mammal Species

The tricolored bat (*Perimyotis subflavus*) is listed as a federally proposed endangered species. Suitable summer roosting habitat for the tricolored bat was observed during the field inspection. The project area contains areas of fragmented woodland that could provide potentially suitable summer roosting habitat throughout the northeastern and southwestern portions of the site. No suitable caves or potential hibernacula sites for the federally listed bat species were observed within the project area. Due to the lack of caves within the project study area and known caves within a 0.5-mile radius of the site, any tree clearing could be performed between November 16 and March 31 with little to no adverse impacts to the federally listed bat species according to the USFWS *Northern Long-eared Bat and Tricolored Bat Voluntary Environmental Review Process for Development Projects Version 1.0*. Tricolored bat is listed as a proposed endangered species and is not currently protected by the USFWS until its reclassification as endangered. However, since this species is listed as state threatened, coordination with the Tennessee Wildlife Resources Agency (TWRA) may be recommended.

7.2 Reptile Species

The alligator snapping turtle (*Macrochelys temminckii*) is listed as a federally proposed threatened species known to occur within slow moving, deep waters of rivers, sloughs, oxbows, swamps, and lakes in middle and west Tennessee. Within the denied access area that was not directly observed, a small farm pond, P-1, was identified using aerial imagery. Due to the perceived small size and isolation from larger river or wetland systems, this species is not anticipated to occur within the project study area. However, direct observation of the feature would be necessary to confirm these conclusions that were derived solely from aerial imagery. Alligator snapping turtle is listed as a proposed threatened species and is not currently protected by the USFWS until its reclassification as threatened. However, since this species is listed as state threatened, coordination with TWRA may be recommended.

7.3 Insect Species

The monarch butterfly (*Danaus plexippus*) is listed as a federally proposed threatened species after a recent reclassification from a candidate species. The monarch butterfly is a migratory insect species known to inhabit fallow fields to forage on nectar from flowering plants and to lay their eggs on milkweed (*Asclepias spp.*) plants, the obligate host for the larval growth and development. Suitable habitat for the monarch butterfly was observed within the project study area in the form of a fragmented fallow field area and unmaintained margins along roadways and agricultural fields present onsite, although no milkweed species were observed during the site

visit. Monarch butterfly is listed as a proposed threatened species and is not currently protected by the USFWS until its reclassification as threatened. Therefore, no further actions are required for this species at this time, but this status is subject to change.

7.4 Plant Species

The whorled sunflower (*Helianthus verticillatus*) is a federally endangered species of flowering plant shown as potentially occurring within the project study area. This species grows in remnant prairie or woodland sites, as well as along roadsides, railroad tracks, and agricultural fields in moist soil. Possible habitat fitting this description was located in the fragmented fallow field area and along agricultural field and roadway margins located onsite; however, the IPaC report stated that the project site does not overlap with the final critical habitat for this species. No individuals from this species were identified during the November 2024 site visit, which was conducted outside of the flowering season for this species. Due to the presence of potentially suitable habitat, a presence-absence survey may be required for this species during its flowering season from August through mid-October.

The copper iris (*Iris fulva*) is a state threatened species of flowering plant shown as potentially occurring within the project study area. This plant species is known to occur within swamps and bottomland forests, stream banks, cypress swamps, and wet pastures. While streams and wetlands were observed onsite, the streams were deeply incised, and the wetlands were disturbed due to being located within an agricultural field. This species prefers more consistently inundated areas such as swamps and therefore is not anticipated to occur within the wetland habitats observed within the project study area. However, although the wetland habitats observed onsite are not ideal for this species, the streams may provide potentially suitable habitat. Despite no individuals being observed during the November 2024 site visit, a presence-absence survey may be required during its flowering season from mid-April to mid-May to confirm the absence of copper iris within the project study area.

7.5 Migratory Bird Species

The USFWS IPaC lists 16 migratory bird species that could be potentially present within the project area. Migratory birds are a particular listing of Birds of Conservation Concern and are not of species listed as federally threatened or endangered. Note, the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGPA) make it illegal to take, possess, import, export, transport, sell, or purchase any migratory bird or the parts, nests, or eggs of such birds except under the terms of a valid federal permit. The official USFWS species list is provided in Appendix F. Table 6 in Appendix C details the listed migratory bird species potentially occurring for the project, provides brief details on their preferred habitat parameters, and provides brief conclusions if the species could occur for the project.

Seven of these migratory bird species could potentially occur in the project study corridor, including American kestrel (*Falco sparverius paulus*), chimney swift (*Chaetura pelagica*), chuck-will's willow (*Antrostomus carolinensis*), Black-throated green warbler (*Setophaga virens*

waynei), Eastern whip-poor-will (*Antrostomus vociferus*), red-headed woodpecker (*Melanerpes erythrocephalus*), and wood thrush (*Hylocichla mustelina*). During the November 2024 site visit no listed migratory bird species were observed. However, it is anticipated that the seven migratory bird species listed above could potentially occur within the project area, especially within the fragmented forest portions. Therefore, it is recommended that prior to construction the limits of disturbance be cleared of woody vegetation prior to each migratory bird species' breeding season or inspection of the corridor be performed prior to woody vegetation removal.

8.0 REGULATORY REQUIREMENTS

8.1 Federal Regulations

The Clean Water Act (CWA) requires that any construction activities resulting in impacts to jurisdictional wetlands or other waters must obtain a permit. A Section 404 permit obtained from the USACE can grant permission for certain construction activities and impacts to regulated wetlands and waterways. A Nationwide 404 permit for linear transportation projects (NWP 14) would need to be obtained for any construction activities that result in less than 0.5 acres of impacts to jurisdictional Waters of the United States (WOTUS). Impacts of 0.5 acres or greater would generally require an individual permit, which requires more information be submitted and has a longer timeframe to be approved. Pre-construction notification (PCN) is required for the NWP 14 if the loss of waters of the United States exceeds 0.10 acres or there is a discharge of dredged or fill material in a special aquatic site. Submittal of the PCN may trigger review of the project for Section 401 Water Quality Certification (WQC) and consultation with additional regulatory agencies by the USACE related to federally protected species and cultural resources. Compensatory mitigation will be required for impacts to jurisdictional waters greater than or equal to 0.10 acres of wetland or 0.03 acres of streambed. Additionally, should impacts to federally protected species be unavoidable, Section 7 consultation with the USFWS will be required during the Nationwide 404 permitting review, which will be performed after the permit had been submitted to the USACE.

8.2 State Regulations

When a project is planned in Tennessee, persons who wish to make an alteration to a stream, river, lake, or wetland must first obtain a water quality permit. Physical alterations to properties of waters of the state require an Aquatic Resource Alteration Permit (ARAP) or a §401 Water Quality Certification (§401 certification). A federal permit may also be required from the USACE for projects that include the discharge of dredged or fill material into WOTUS including wetlands. When a §404 is required from the USACE, a §401 certification must first be obtained from the division. A §401 certification affirms that the discharge would not violate Tennessee's water quality standards. The application process for a §401 certification is the same as the ARAP process. Evaluation of resources in west Tennessee is conducted by the Memphis District of the USACE.

Clearing of trees that provide shade to jurisdictional streams may be deemed as impacts per TDEC regulations. Coordination with TDEC is recommended to clarify the regulations and

potential mitigation requirements associated with tree clearing along jurisdictional streams. Additionally, coordination with TWRA may be required if potential impacts to state listed species are anticipated.

8.3 Local Regulations

The City of Humboldt, Tennessee, has zoning regulations regarding waters of the state for all development and redevelopment occurring within the county. Provisions for flood hazard reduction are given in these zoning regulations to minimize danger to life and property and to allow its citizens to participate in the National Flood Insurance Program.

Standards for areas where streams exist with base flood data provided but where no floodways have been designated include the following:

1. No encroachments, including fill material, new construction, and substantial improvements, shall be located within areas of special flood hazard, unless certification by a Tennessee registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than 1 foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

2. New construction and substantial improvements of buildings, where permitted, shall comply with all applicable flood hazard reduction provisions of 14-705, Sections A and B.

For areas where streams exist, but no base flood data has been provided, or where a floodway has not been delineated, the following provisions shall apply:

1. The Administrator shall obtain, review, and reasonably utilize any Base Flood Elevation and floodway data available from any federal, state, or other sources, including data developed as a result of these regulations (see 2 below), as criteria for requiring that new construction, substantial improvements, or other development in approximate A Zones meet the requirements of 14-705, Sections A and B.

2. All new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, are required to include Base Flood Elevation data.

3. Within approximate A Zones, where Base Flood Elevations have not been established and where such data is not available from other sources, the lowest floor of a building is required to be elevated or floodproofed to a level of at least 3 feet above the highest adjacent grade (as defined in 14-702). All applicable data including elevations or floodproofing certifications shall be recorded as set forth in 14-704, Section B. Openings sufficient to facilitate automatic equalization

of hydrostatic flood forces on exterior walls shall be provided in accordance with the standards of 14-705, Section B.

4. Within approximate A Zones, where Base Flood Elevations have not been established and where such data is not available from other sources, no encroachments, including structures or fill material, shall be located within an area equal to the width of the stream or 20 feet, whichever is greater, measured from the top of the stream bank, unless certification by a Tennessee registered Humboldt Zoning Ordinance VII-34 professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than 1 foot at any point within the City of Humboldt, Tennessee. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

5. New construction and substantial improvements of buildings, where permitted, shall comply with all applicable flood hazard reduction provisions of 14-705, Sections A and B. Within approximate A Zones, those subsections of 14-705, Section B dealing with the alteration or relocation of a watercourse, assuring watercourse carrying capacities are maintained and manufactured homes provisions, are complied with as required.

9.0 SUMMARY

A total of three intermittent streams, two erosional swales, one ditch, two wetlands, and one pond were delineated. Potentially suitable habitat for the tricolored bat, monarch butterfly, whorled sunflower, and copper iris was identified during the field investigation of the project study area. The Existing Conditions Map (Figure 6, Appendix A) visually represents the boundaries of the wetland and non-wetland waters delineated within the project area. Table 1 and Table 2 (Appendix C) summarize the current locations and linear footage or acreage of each wetland and non-wetland feature, and Table 4 (Appendix C) details the observed wildlife at the time of the site inspections. The wetland and stream determination data forms for the delineated natural resources are provided in Appendix D, and photographs of all natural resources, including vegetative communities, are provided in Appendix E. Lastly, Table 5 (Appendix C) summarizes the potential for state and federally listed species within the project study area, and the official USFWS species list and the TDEC online rare species search results are provided in Appendix F.

APPENDIX A – Figures

Project Study Area
No Access Area

N

1 inch = 800 feet

0 200 400 800 1,200 Feet

Basemap: ESRI World Imagery
Source Data: Tennessee Streets

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
AERIAL SITE LOCATION MAP

PROJ NO: 3832801

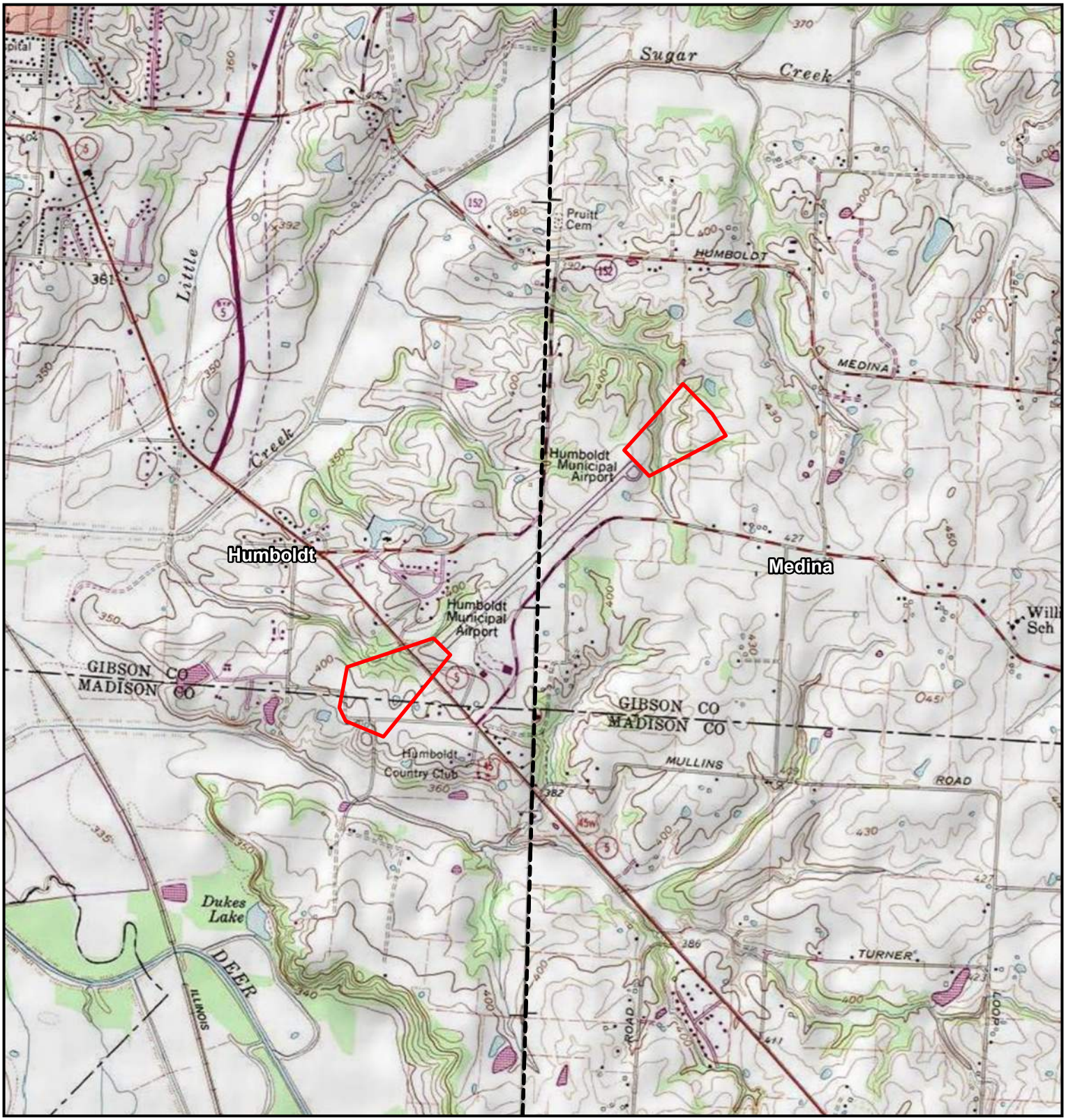
DATE: January 2025

FIGURE 1

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx



HUMBOLDT AND MEDINA 7.5 MINUTE QUADRANGLE

Project Study Area

USGS 24K Boundaries

N

1 inch = 2,000 feet

0 500 1,000 2,000 3,000 Feet

Basemap: ESRI USA Topo Map
Source Data: ESRI 24K Boundaries

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
USGS SITE LOCATION MAP

PROJ NO: 3832801

DATE: January 2025

FIGURE 2

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

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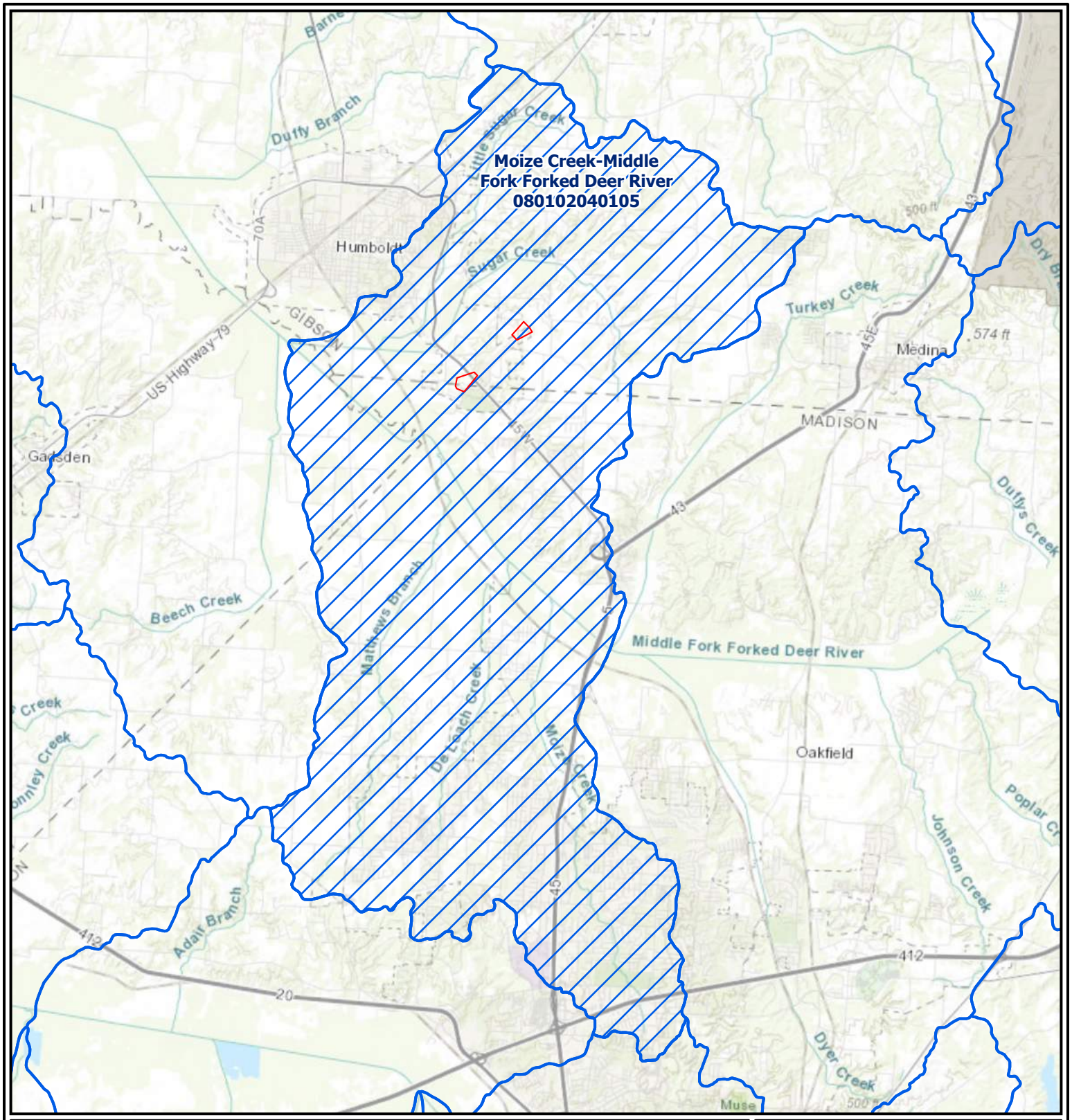

Project Study Area
Project Watershed
HUC 12 Watershed

N

1 inch = 2 miles

0 0.5 1 2 3 Miles

Basemap: ESRI USA Topo Map
Source Data: ESRI 24K Boundaries

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
PROJECT WATERSHED MAP

PROJ NO: 3832801

DATE: January 2025

FIGURE 3

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx

Project Soils

Soil Unit

- Co
- LME3
- LeB
- LeB2
- LeC3
- LeD3
- PrC3
- PrD3_1
- PrD3_2

Project Study Area

Soil Unit

1 inch = 800 feet

0 200 400 800 1,200 Feet

N

Basemap: ESRI World Imagery
Source Data: USDA NRCS Web Soil Survey (TN133 & TN053)

PROJECT:

City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:

PROJECT SOILS MAP

PROJ NO: 3832801

DATE: January 2025

FIGURE 4

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

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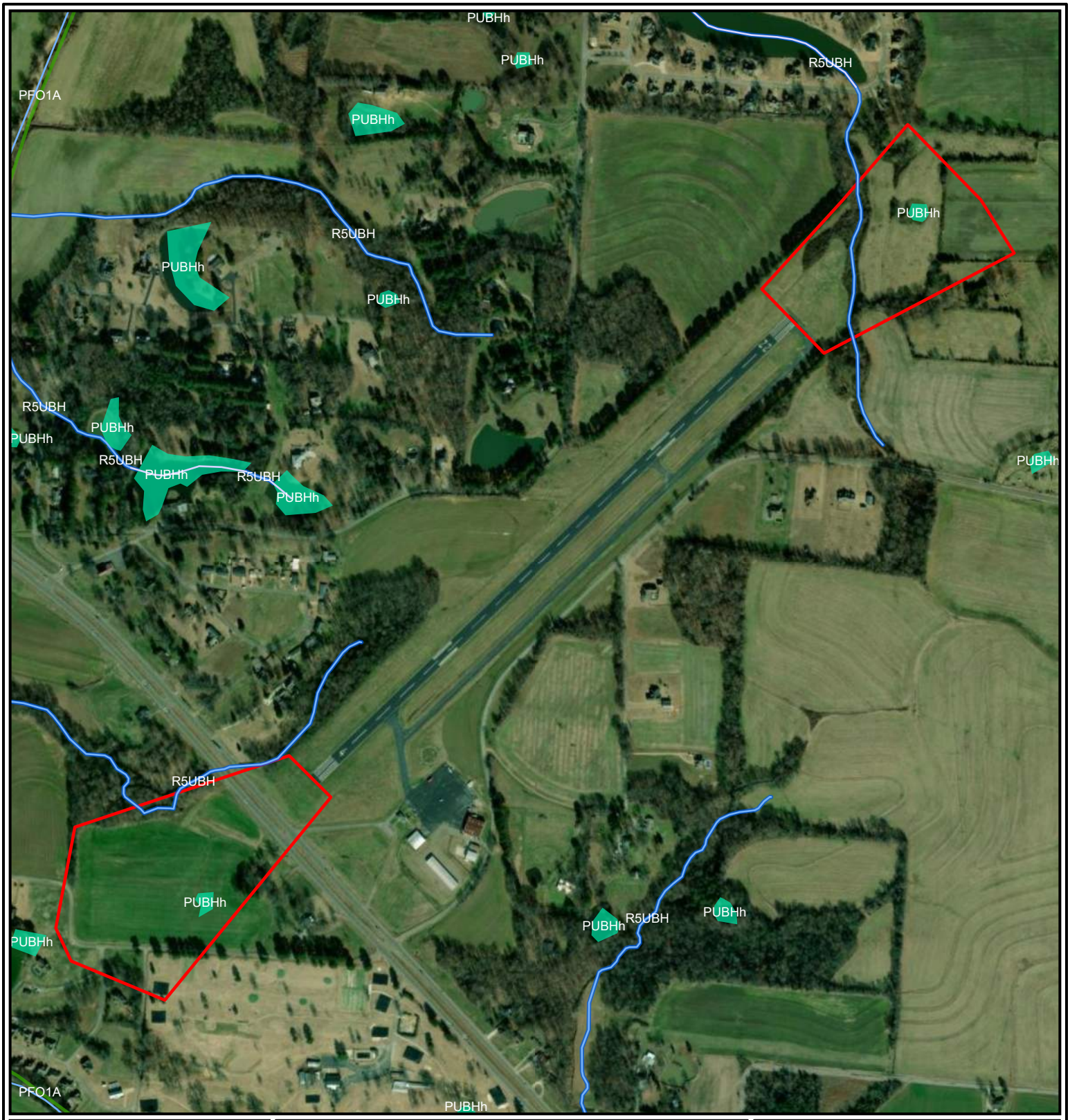

NWI Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

NHD Flowline
- Stream/River
- Artificial Path
- Project Study Area

N

1 inch = 800 feet

0 200 400 800 1,200 Feet

Basemap: ESRI World Imagery
Source Data: USFWS NWI & USDA NHD Flowline (TN)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
NATIONAL WETLANDS INVENTORY MAP

PROJ NO: 3832801

DATE: January 2025

FIGURE 5

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

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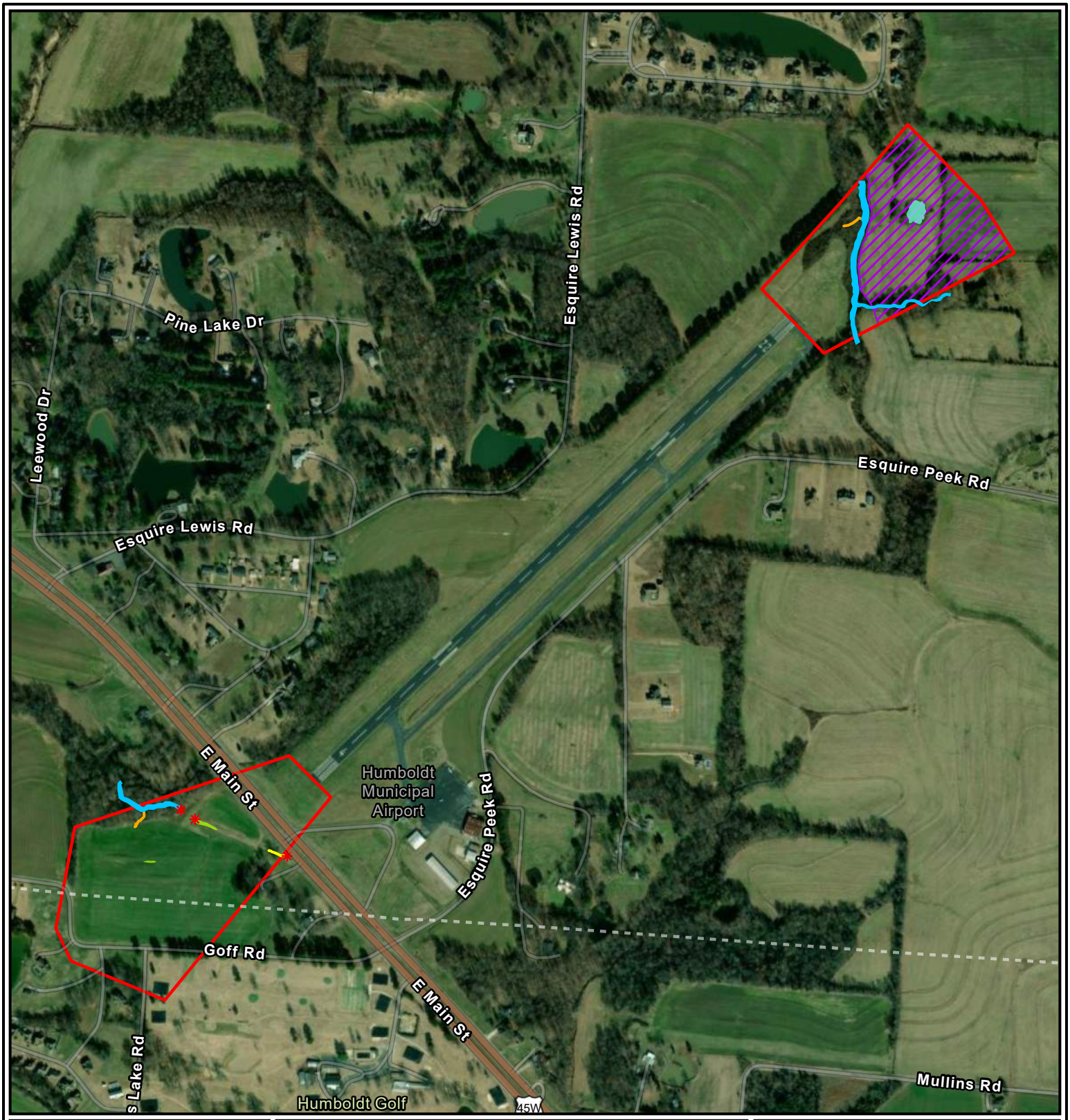

Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area
- No Access Area

N

1 inch = 800 feet

0 200 400 800 1,200 Feet

Basemap: ESRI World Imagery
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS AERIAL MAP (OVERVIEW)

PROJ NO: 3832801

DATE: January 2025

FIGURE 6a

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

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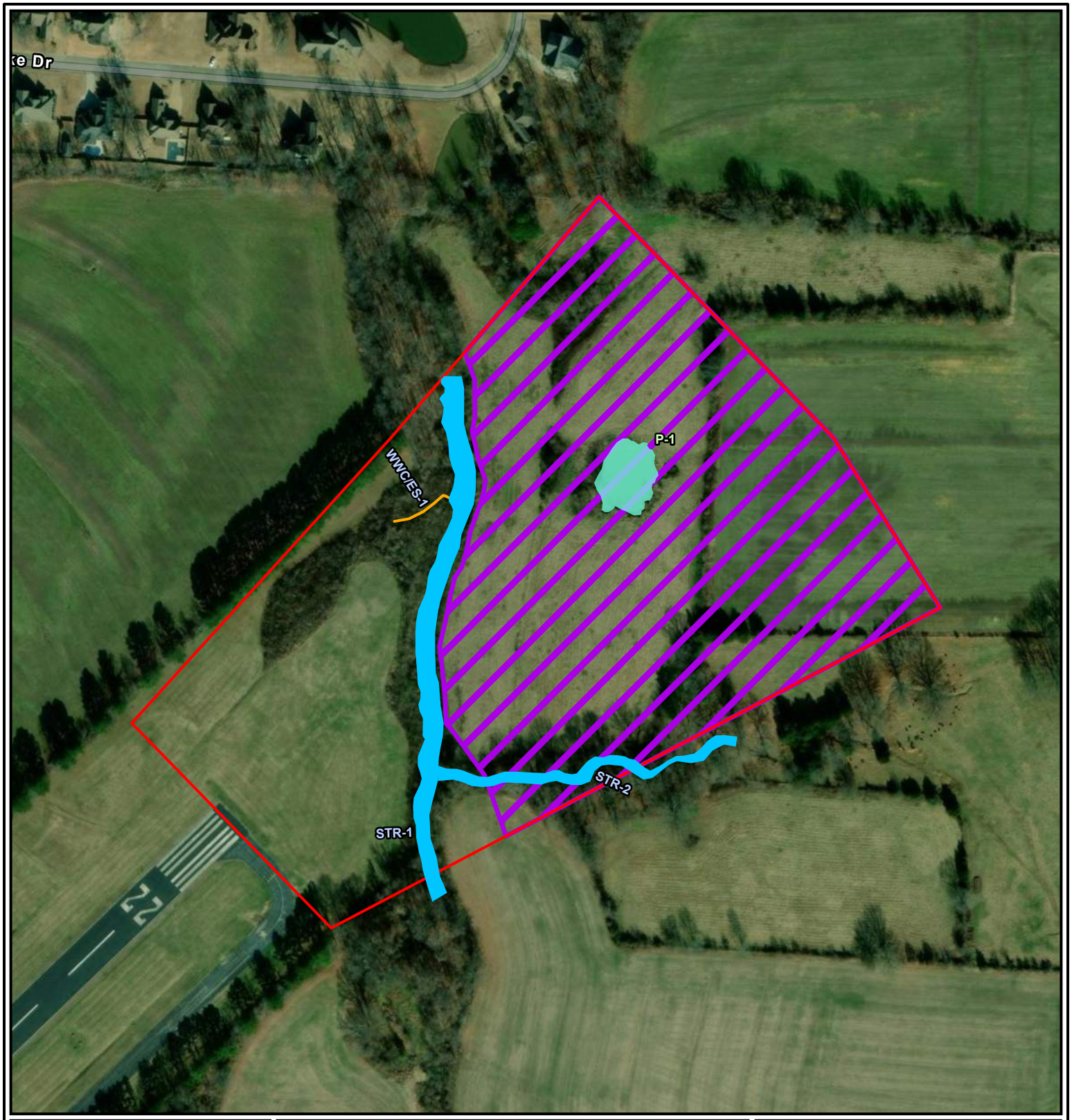


Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area
- No Access Area

N

1 inch = 250 feet

0 50 100 200 300 Feet

Basemap: ESRI World Imagery
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS AERIAL MAP (DETAILED)

PROJ NO: 3832801

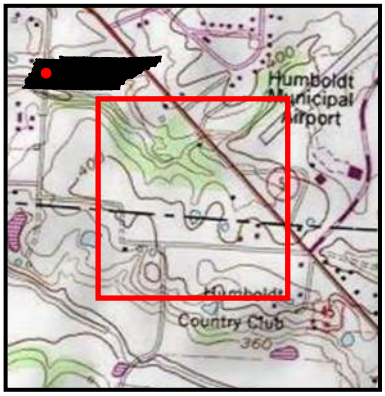
DATE: January 2025

FIGURE 6a-1

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx



Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area

N

1 inch = 250 feet

0 50 100 200 300 Feet

Basemap: ESRI World Imagery
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS AERIAL MAP (DETAILED)

PROJ NO: 3832801

DATE: January 2025

FIGURE 6a-2

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

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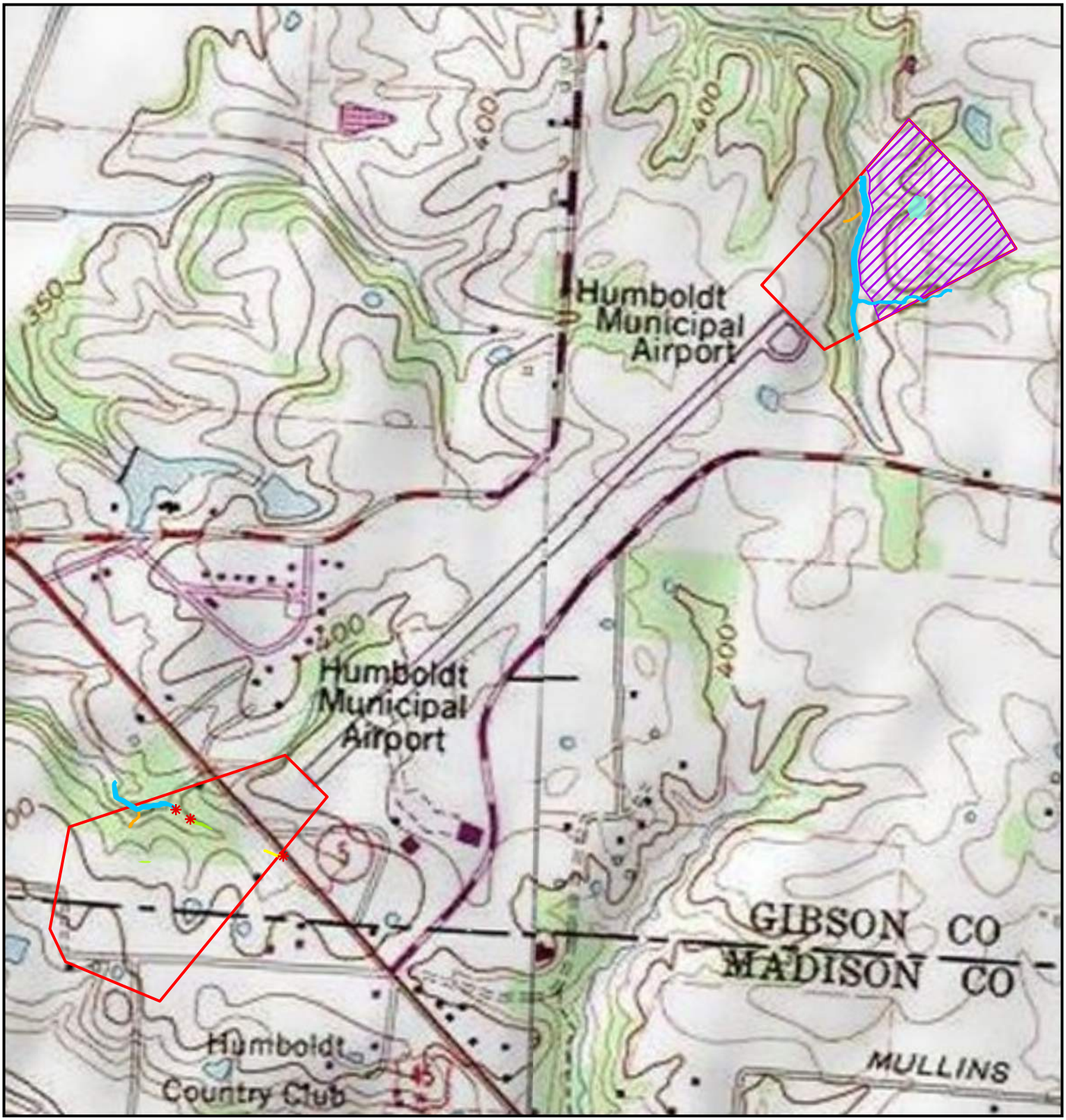


Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area
- No Access Area

N

1 inch = 800 feet

0 200 400 800 1,200 Feet

Basemap: ESRI USA Topo Maps
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS TOPOGRAPHIC MAP (OVERVIEW)

PROJ NO: 3832801

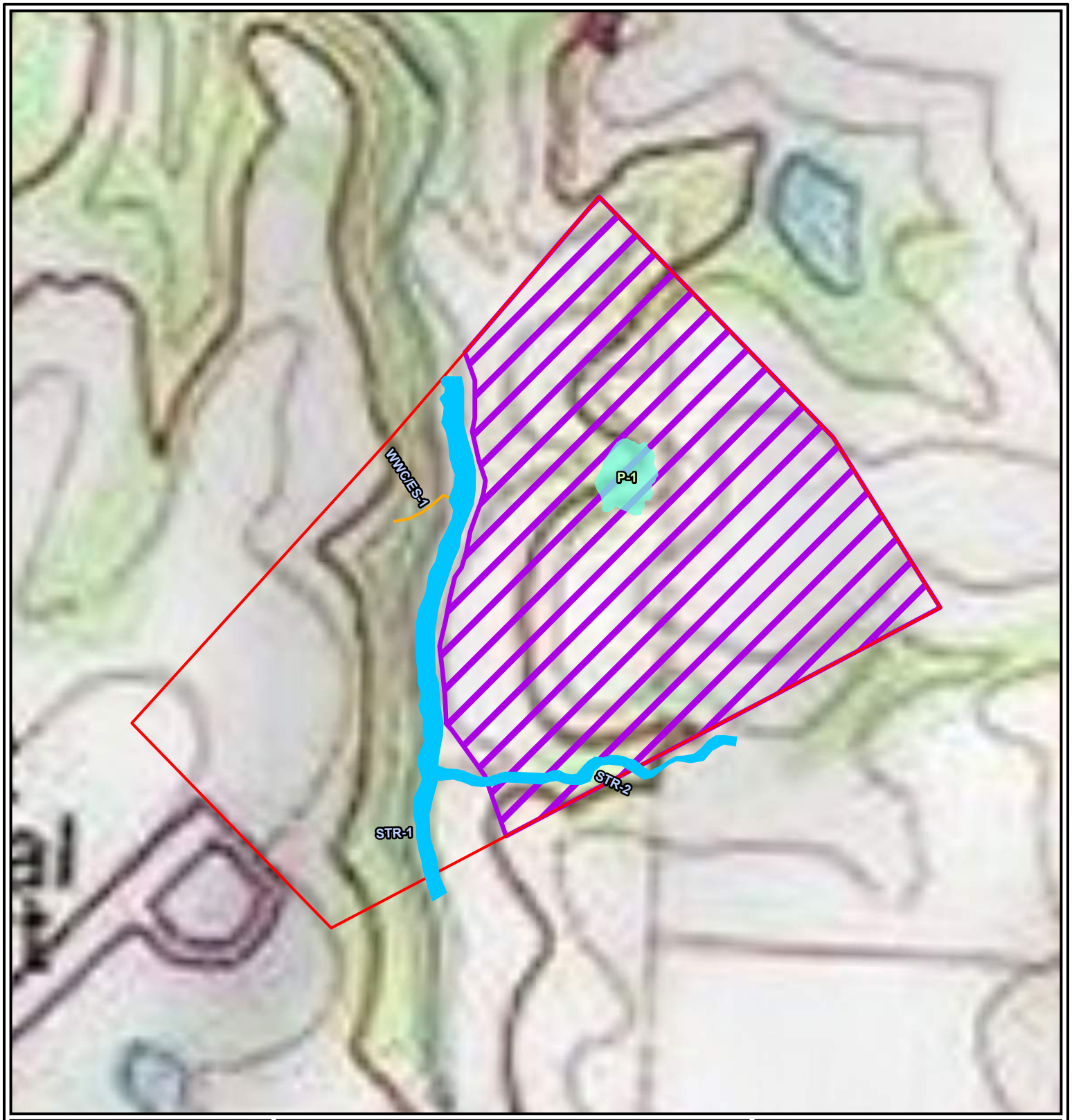
DATE: January 2025

FIGURE 6b

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx



Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area
- No Access Area

N

1 inch = 250 feet

0 50 100 200 300 Feet

Basemap: ESRI USA Topo Maps
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS TOPOGRAPHIC MAP (DETAILED)

PROJ NO: 3832801

DATE: January 2025

FIGURE 6b-1

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx

Delineated Waterbody
- Intermittent Stream
- WWC/Erosional Swale
- Drainage Ditch
- Culvert

Delineated Wetland
- PEM Wetland
- Farm Pond
- Project Study Area

N

1 inch = 250 feet

0 50 100 200 300 Feet

Basemap: ESRI USA Topo Maps
Source Data: Barge Field Investigation (November 2024)

PROJECT:
City of Humboldt
Humboldt Municipal Airport Project
Humboldt, Gibson and Madison Counties, Tennessee

TITLE:
EXISTING CONDITIONS TOPOGRAPHIC MAP (DETAILED)

PROJ NO: 3832801

DATE: January 2025

FIGURE 6b-2

BARGE DESIGN SOLUTIONS
615 3rd Avenue South, Suite 700
Nashville, TN 37210

CITY OF Humboldt TENNESSEE

Path: F:\38\38328\3832801\03_PROJECT_EXECUTION\EWR\GIS_PRO\Project_GIS.aprx

APPENDIX B – NRCS Custom Soil Report

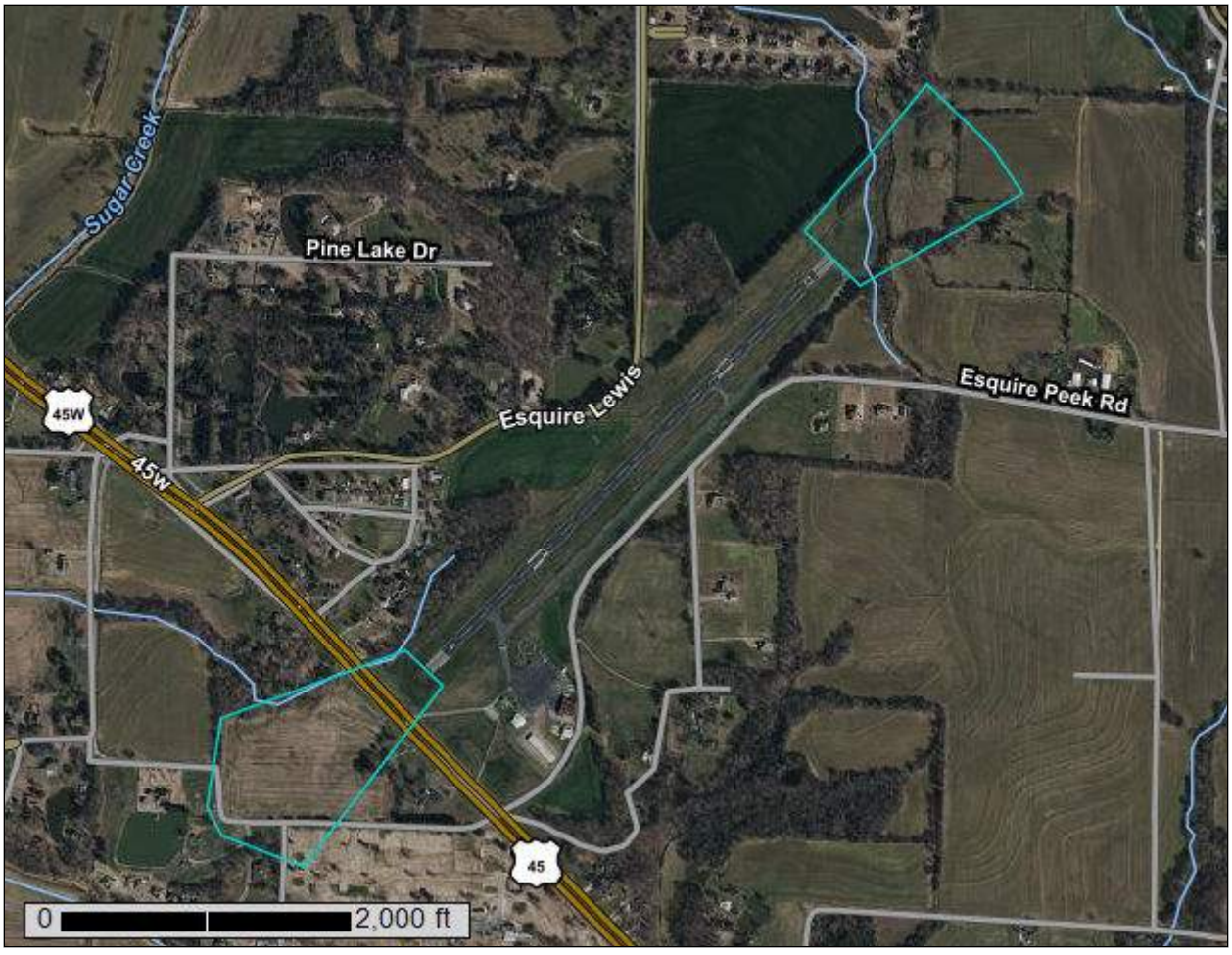
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for Gibson County, Tennessee, and Madison County, Tennessee



December 11, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

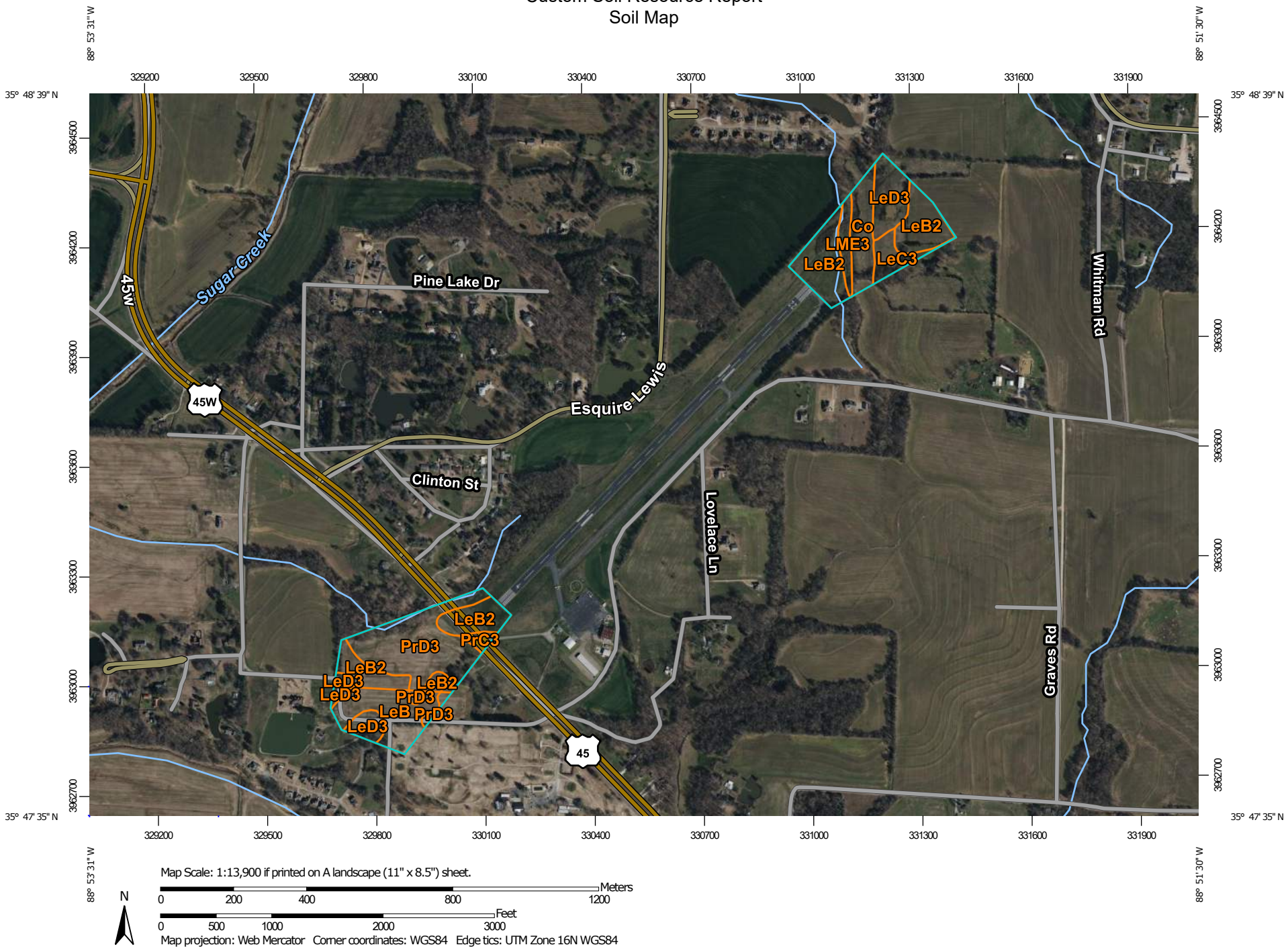
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



MAP LEGEND

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

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

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

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

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

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

Soil Survey Area: Gibson County, Tennessee
Survey Area Data: Version 22, Sep 12, 2024

Soil Survey Area: Madison County, Tennessee
Survey Area Data: Version 19, Sep 12, 2024

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

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

Date(s) aerial images were photographed: Mar 5, 2023—Mar 15, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Co	Collins silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	4.7	8.7%
LeB2	Lexington silt loam, 2 to 5 percent slopes, moderately eroded	17.1	31.8%
LeC3	Lexington silt loam, 5 to 8 percent slopes, severely eroded	2.4	4.5%
LeD3	Lexington silt loam, 8 to 12 percent slopes, severely eroded	4.7	8.7%
LME3	Lexington, Smithdale and Providence soils, 12 to 30 percent slopes, severely eroded	1.7	3.2%
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded	0.8	1.4%
PrD3_1	Providence silt loam, 8 to 15 percent slopes, severely eroded	12.7	23.6%
Subtotals for Soil Survey Area		**44.1**	**81.9%**
Totals for Area of Interest		**53.9**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
LeB	Lexington silt loam, 2 to 5 percent slopes	7.0	12.9%
LeD3	Lexington silt loam, 8 to 12 percent slopes, severely eroded	2.1	3.9%
PrD3_2	Providence silt loam, 8 to 12 percent slopes, severely eroded	0.7	1.3%
Subtotals for Soil Survey Area		**9.7**	**18.1%**
Totals for Area of Interest		**53.9**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps.

The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Gibson County, Tennessee

Co—Collins silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration

Map Unit Setting

National map unit symbol: 2t23l
Elevation: 180 to 500 feet
Mean annual precipitation: 50 to 53 inches
Mean annual air temperature: 47 to 71 degrees F
Frost-free period: 193 to 242 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Collins, occasionally flooded, and similar soils: 89 percent
Minor components: 11 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Collins, Occasionally Flooded

Setting

Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Coarse-silty alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 8 inches: silt loam
C - 8 to 62 inches: silt loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 24 to 60 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B
Ecological site: F134XY018AL - Northern Alluvial Flat - PROVISIONAL
Hydric soil rating: No

Minor Components

Falaya, occasionally flooded

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (three-dimensional): Dip
Down-slope shape: Concave

Across-slope shape: Linear
Ecological site: F134XY019AL - Northern Moderately Wet Alluvial Flat - PROVISIONAL
Hydric soil rating: No

Vicksburg, occasionally flooded
Percent of map unit: 5 percent
Landform: Flood plains
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F134XY018AL - Northern Alluvial Flat - PROVISIONAL
Hydric soil rating: No

LeB2—Lexington silt loam, 2 to 5 percent slopes, moderately eroded

Map Unit Setting
National map unit symbol: 2wn61
Elevation: 260 to 650 feet
Mean annual precipitation: 47 to 58 inches
Mean annual air temperature: 46 to 72 degrees F
Frost-free period: 189 to 290 days
Farmland classification: All areas are prime farmland

Map Unit Composition
Lexington and similar soils: 88 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting
Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over marine deposits

Typical profile
Ap - 0 to 5 inches: silt loam
Bt - 5 to 36 inches: silty clay loam
2Bt - 36 to 80 inches: loam

Properties and qualities
Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

Minor Components

Providence

Percent of map unit: 5 percent
Landform: Terraces, divides
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Interfluve, tread
Down-slope shape: Concave, linear
Across-slope shape: Linear
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

Loring

Percent of map unit: 4 percent
Landform: Loess hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

Feliciana

Percent of map unit: 3 percent
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

LeC3—Lexington silt loam, 5 to 8 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: m11v
Elevation: 300 to 650 feet
Mean annual precipitation: 44 to 63 inches

Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 192 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition
Lexington and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting
Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile
H1 - 0 to 3 inches: silt loam
H2 - 3 to 42 inches: silty clay loam
H3 - 42 to 62 inches: sandy loam

Properties and qualities
Slope: 5 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups
Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

LeD3—Lexington silt loam, 8 to 12 percent slopes, severely eroded

Map Unit Setting
National map unit symbol: m11w
Elevation: 300 to 650 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 192 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition
Lexington and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 42 inches: silty clay loam
H3 - 42 to 62 inches: sandy loam

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

LME3—Lexington, Smithdale and Providence soils, 12 to 30 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: m11s
Elevation: 280 to 650 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 192 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition

Lexington and similar soils: 45 percent
Smithdale and similar soils: 30 percent
Providence and similar soils: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting

Landform: Hillslopes

Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 4 inches: silt loam
H2 - 4 to 35 inches: silty clay loam
H3 - 35 to 58 inches: sandy loam
H4 - 58 to 80 inches: sandy loam

Properties and qualities

Slope: 12 to 20 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F134XY006AL - Northern Loess Sideslope - PROVISIONAL
Hydric soil rating: No

Description of Smithdale

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loamy marine deposits

Typical profile

H1 - 0 to 3 inches: sandy loam
H2 - 3 to 22 inches: sandy loam
H3 - 22 to 66 inches: sandy loam

Properties and qualities

Slope: 17 to 30 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Providence

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 18 inches: silty clay loam
H3 - 18 to 35 inches: silt loam
H4 - 35 to 64 inches: sandy loam
H5 - 64 to 80 inches: sandy clay loam

Properties and qualities

Slope: 12 to 15 percent
Depth to restrictive feature: 18 to 38 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 16 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C/D
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

PrC3—Providence silt loam, 5 to 8 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: m128
Elevation: 300 to 560 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 192 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition

Providence and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Providence

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 18 inches: silty clay loam
H3 - 18 to 36 inches: silt loam
H4 - 36 to 62 inches: sandy loam
H5 - 62 to 75 inches: sandy clay loam

Properties and qualities

Slope: 5 to 8 percent
Depth to restrictive feature: 18 to 38 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 15 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: m129
Elevation: 280 to 560 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 47 to 69 degrees F
Frost-free period: 192 to 206 days
Farmland classification: Not prime farmland

Map Unit Composition

Providence and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Providence

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope

Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 3 inches: silt loam
H2 - 3 to 18 inches: silty clay loam
H3 - 18 to 36 inches: silt loam
H4 - 36 to 62 inches: sandy loam
H5 - 62 to 75 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 18 to 38 inches to fragipan
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 15 to 35 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C/D
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

Madison County, Tennessee

LeB—Lexington silt loam, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2wn65
Elevation: 300 to 650 feet
Mean annual precipitation: 47 to 58 inches
Mean annual air temperature: 46 to 71 degrees F
Frost-free period: 189 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lexington and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting

Landform: Hills
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over marine deposits

Typical profile

Ap - 0 to 6 inches: silt loam
Bt - 6 to 32 inches: silty clay loam
2Bt - 32 to 80 inches: loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 10.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL, F134XY007AL - Northern Loess Terrace - PROVISIONAL
Hydric soil rating: No

Minor Components

Feliciana

Percent of map unit: 5 percent
Landform: Divides
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL, F134XY007AL - Northern Loess Terrace - PROVISIONAL
Hydric soil rating: No

LeD3—Lexington silt loam, 8 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: m173
Elevation: 300 to 650 feet
Mean annual precipitation: 47 to 62 inches
Mean annual air temperature: 49 to 70 degrees F
Frost-free period: 197 to 211 days
Farmland classification: Not prime farmland

Map Unit Composition

Lexington and similar soils: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lexington

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Parent material: Loess over loamy marine deposits

Typical profile

H1 - 0 to 6 inches: silt loam
H2 - 6 to 30 inches: silty clay loam
H3 - 30 to 45 inches: sandy loam
H4 - 45 to 72 inches: sandy loam

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

PrD3—Providence silt loam, 8 to 12 percent slopes, severely eroded

Map Unit Setting

National map unit symbol: 2vxxr
Elevation: 100 to 640 feet
Mean annual precipitation: 52 to 69 inches
Mean annual air temperature: 57 to 70 degrees F
Frost-free period: 215 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Providence and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Providence

Setting

Landform: Hillslopes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess over loamy marine deposits

Typical profile

Ap - 0 to 4 inches: silt loam
Bt1 - 4 to 20 inches: silty clay loam
Btx1 - 20 to 29 inches: silt loam
Btx2 - 29 to 37 inches: silt loam
2Btx1 - 37 to 57 inches: loam
2C - 57 to 65 inches: sandy loam

Properties and qualities

Slope: 8 to 12 percent
Depth to restrictive feature: 14 to 26 inches to fragipan
Drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 14 to 26 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: C/D
Ecological site: F134XY012AL - Northern Loess Fragipan Upland - PROVISIONAL
Hydric soil rating: No

Minor Components

Ora

Percent of map unit: 6 percent
Landform: Terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Lexington

Percent of map unit: 4 percent
Landform: Hillslopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: F134XY003AL - Northern Loess Interfluve - PROVISIONAL
Hydric soil rating: No

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APPENDIX C – Supplemental Tables

Table 1 – Non-Wetland Features within the Project Study Area

Waterbody I.D.	Description	Location Within Project Boundaries	Linear Feet within Project	HD Score	Federal Jurisdictional Status	State Jurisdictional Status
STR-1	Intermittent Stream	Start: 35.8057908, -88.8688986 End: 35.8084259, -88.8688886	980.8	31.75	Yes	Yes
STR-2	Intermittent Stream	Start: 35.8065875, -88.8670408 End: 35.8063773, -88.8689191	563.9	23.00	Yes	Yes
STR-3	Intermittent Stream	Start: 35.7977184, -88.8823672 End: 35.7981385, -88.8835816	377.8	31.00	Yes	Yes
WWC/ES-1	Erosional Swale	Start: 35.8076695, -88.8692489 End: 35.8077995, -88.8689087	117.7	14.75	No	No[2] (WWC)
WWC/ES-2	Erosional Swale	Start: 35.7973938, -88.8832775 End: 35.7976430, -88.8831003	121.4	15.75	No	No[2] (WWC)
D-1	Drainage Ditch	Start: 35.7970649, -88.880534 End: 35.7969942, -88.8801742	116.6	N/A	No	No

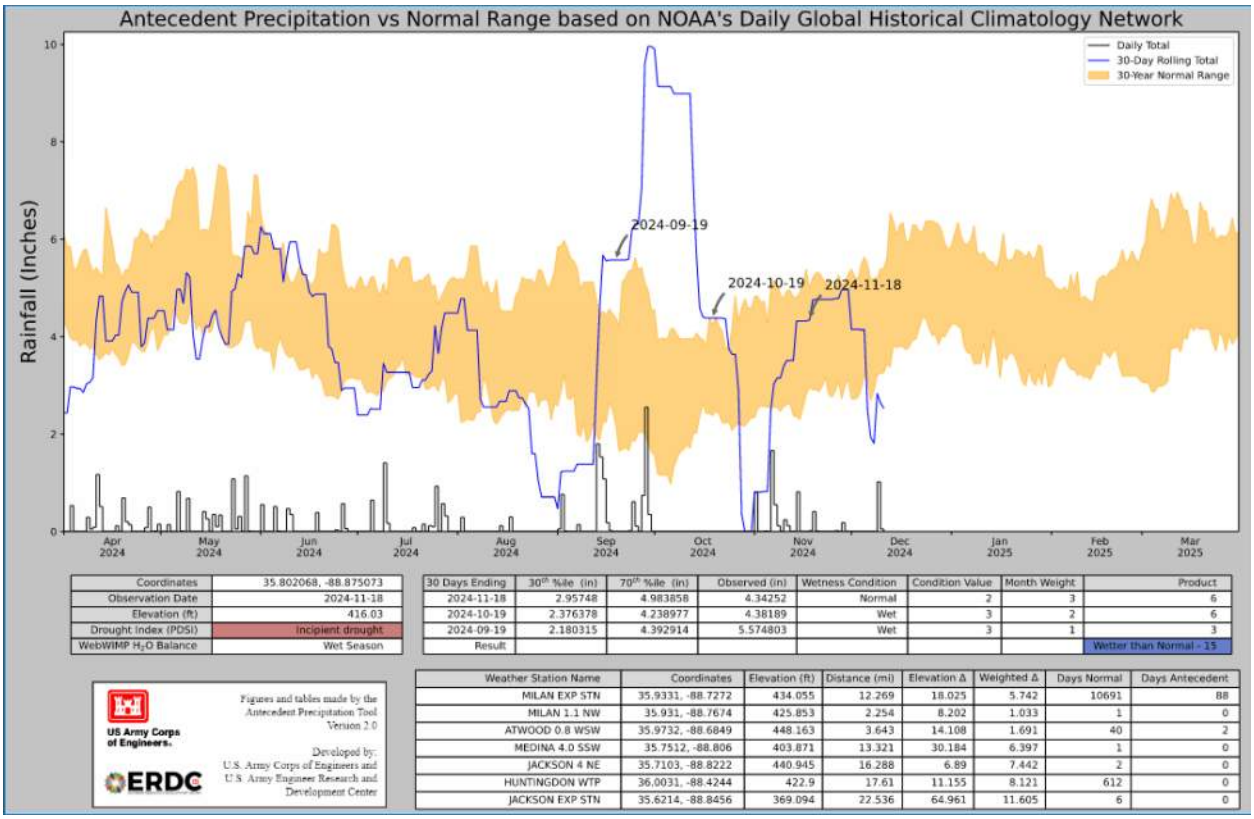
1: Federal jurisdiction status determined by relevant reach to RPW and NonRPW WOTUS
2: State Status determined by HD score (<19 is a WWC)

Table 2 – Wetlands within the Project Study Area

Waterbody I.D.	Description	Location Within Project Boundaries	Acreage within Project	Federal Jurisdictional Status	State Jurisdictional Status
WTL-1	PEM	35.7974943, -88.8819265	0.07	Yes[1]	Yes
WTL-2	PEM	35.7968266, -88.8829503	0.02	Unlikely[1]	Yes
P-1	POW	35.8079392, -88.8677851	0.28	Unlikely[1]*	Potential[2]*

1: Federal jurisdiction status determined by observable connection to RPW and NonRPW WOTUS or is an isolated water
2: Isolated man-made farm pond and USDA soil survey indicates groundwater table depth connection to the pond
**: Isolation not confirmed in field observation.*

Table 3 - Antecedent Precipitation Tool: November 18, 2024



Coordinates	35.802068, -88.875073
Observation Date	2024-11-18
Elevation (ft)	416.03
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30th %ile (in)	70th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-11-18	2.95748	4.983858	4.34252	Normal	2	3	6
2024-10-19	2.376378	4.238977	4.38189	Wet	3	2	6
2024-09-19	2.180315	4.392914	5.574803	Wet	3	1	3
Result							Wetter than Normal - 15

US Army Corps of Engineers.
ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
MILAN EXP STN	35.9331, -88.7272	434.055	12.269	18.025	5.742	10691	88
MILAN 1.1 NW	35.931, -88.7674	425.853	2.254	8.202	1.033	1	0
ATWOOD 0.8 WSW	35.9732, -88.6849	448.163	3.643	14.108	1.691	40	2
MEDINA 4.0 SSW	35.7512, -88.806	403.871	13.321	30.184	6.397	1	0
JACKSON 4 NE	35.7103, -88.8222	440.945	16.288	6.89	7.442	2	0
HUNTINGDON WTP	36.0031, -88.4244	422.9	17.61	11.155	8.121	612	0
JACKSON EXP STN	35.6214, -88.8456	369.094	22.536	64.961	11.605	6	0

Table 4 – Observed Wildlife within the Project Area

Common Name	Scientific Name
Birds	
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
Black vulture	*Coragyps atratus*
Blue jay	*Cyanocitta cristata*
Canada goose	*Branta canadensis*
Carolina chickadee	*Poecile carolinensis*
Killdeer	*Charadrius vociferus*
Mourning dove	*Zenaida macroura*
Northern cardinal	*Cardinalis cardinalis*
Red-tailed hawk	*Buteo jamaicensis*
Turkey vulture	*Cathartes aura*

Common Name	Scientific Name
Mammals	
Eastern cottontail	*Sylvilagus floridanus*
Eastern gray squirrel	*Sciurus carolinensis*
Raccoon	*Procyon lotor*
Striped skunk	*Mephitis mephitis*
Virginia opossum	*Didelphis virginiana*
White tailed deer	*Odocoileus virginianus*
Amphibians	
Green frog	*Lithobates clamitans*

Table 5- State and Federally Listed RTE Potentially Present Within the Study Area

Common Name	Species	State Status	Federal Status	Habitat Type	Habitat Present	Observed
Mammal						
Tricolored bat	*Perimyotis subflavus*	Threatened	Proposed Endangered	Hibernates during winter in caves, or occasionally in abandoned mines. Summer roosting season in late spring and summer months. Females will roost in leaf clusters in living or dead trees, as well as utilize cavities in living or dead trees and anthropogenic structures.	Yes (Roosting)	No (Potentially Present)
Reptile						
Alligator snapping turtle	*Macrochelys temminckii*	Threatened	Proposed Threatened	Slow moving, deep waters of rivers, sloughs, oxbows, swamps, and lakes. Middle and west Tennessee.	No	No
Insect						
Monarch butterfly	*Danaus plexippus*	N/A	Proposed Threatened	Fallow fields or prairies with a presence of milkweed (*Asclepias spp.*) host plants for larval development.	Yes	No (Potentially Present)
Plant						
Copper iris	*Iris fulva*	Threatened	N/A	Swamps and bottomland forests, stream banks, cypress swamps, and wet pastures.	Yes (Poor)	No (Potentially Present)
Whorled sunflower	*Helianthus verticillatus*	Endangered	Endangered	Grows in remnant prairie or woodland sites, as well as along roadsides, railroad tracks, and agricultural fields in moist soil	Yes (Not Critical)	No (Potentially Present)

Table 6 – Migratory Birds or Eagles Potentially within the Project Area

Common Name	Species	Protection Act	Habitat Type	Habitat Present	Breeding Window	Observed
American kestrel	*Falco sparverius paulus*	MBTA	Can be found in a wide variety of habitats, including grasslands, agricultural fields, and even suburban and urban areas	Yes	April-August	No
Bald eagle	*Haliaeetus leucocephalus*	BGPA	Breeding habitat includes areas close to rivers, lakes, reservoirs, or other bodies of water that contain primary food sources including fish or waterfowl. Nests are usually in tall trees or on pinnacles or cliffs near water. Occurs throughout North American and is present in Tennessee during the non-breeding season, although some individuals may be present year-round.	No	September-July	No
Chimney swift	*Chaetura pelagica*	MBTA	Known to nest in urban and suburban environments on natural and man-made vertical structures.	Yes	March-August	No
Chuck-will's-widow	*Antrostomus carolinensis*	MBTA	Oak and pine woodlands. Breeds in shady southern woodlands of various types. Winter habitat includes subtropical and tropical lowland rainforests.	Yes	May-July	No
Black-throated green warbler	*Setophaga virens waynei*	MBTA	Mainly conifers. Breeds mostly in coniferous and mixed forests, very locally in deciduous forest. Often nests around spruce, also in white pine, hemlock, red cedar, and jack pine.	Yes	May-August	No
Eastern whip-poor-will	*Antrostomus vociferus*	MBTA	Leafy woodlands. Breeds in rich moist woodlands, either deciduous or mixed; seems to avoid purely coniferous forest.	Yes	May-August	No
Kentucky warbler	*Geothlypis formosa*	MBTA	Lowland hardwood forests, often near streams with a dense understory. Large forests with treefalls and other well-lit gaps are preferred.	No	April-August	No
Lesser yellowlegs	*Tringa avipes*	MBTA	Wetland habitats ranging from tidal flats to sewage ponds to flooded fields; often in the company of other shorebird species. Breeds in open forests and meadows interspersed with marshes and bogs.	No	Breeds Elsewhere	No

Table 6 – Migratory Birds or Eagles Potentially within the Project Area

Common Name	Species	Protection Act	Habitat Type	Habitat Present	Breeding Window	Observed
Marbled godwit	*Limosa fedoa*	MBTA	Prairies, pools, shores, tideflats. Breeds mostly on northern Great Plains, in areas of native prairie with marshes or ponds nearby, and on Alaska Peninsula. In migration and winter around tidal mudflats, marshes, ponds, mainly in coastal regions.	No	Breeds Elsewhere	No
Pectoral sandpiper	*Calidris melanotos*	MBTA	In migration, prairie pools, muddy shores, fresh and tidal marshes; in summer, tundra. Migrants favor grassy places. Sometimes on dry prairie or even plowed fields. On breeding grounds, favors wet grassy areas of tundra.	No	Breeds Elsewhere	No
Prairie warbler	*Protonotaria citrea*	MBTA	Wooded swamps. Breeds in flooded river bottom or wetlands with bay trees surrounded by cypress swamp or in areas with slow moving or standing water. Winters in the tropics in lowland woods and mangrove swamps.	No	May-July	No
Prothonotary warbler	*Protonotaria citrea*	MBTA	Likes to breed in wooded swamps, flooded bottomland forests, and along slow-moving rivers.	No	April-July	No
Red-headed woodpecker	*Melanerpes erythrocephalus*	MBTA	Avoids unbroken forest, favoring open country or at least clearings in the woods. Forest edges, orchards, open pine woods, groves of tall trees in open country are likely habitats.	Yes	May-September	No
Rusty blackbird	*Euphagus carolinus*	MBTA	Can be typically found in flooded or wet hardwood forests, beaver ponds, and pond edges.	No	Breeds Elsewhere	No
Semipalmated sandpiper	*Calidris pusilla*	MBTA	Beaches, mudflats; tundra in summer. During migration along coast found on mudflats in intertidal zone, shallow estuaries and inlets, beaches. Inland, occurs on edges of lakes and marshes next to very shallow water. Nests on low arctic tundra, near water.	No	Breeds Elsewhere	No
Wood thrush	*Hylocichla mustelina*	MBTA	Large mixed forest areas near water but has been known to utilize fragmented woodland patches to a lesser extent.	Yes	May-August	No

APPENDIX D – Wetland and Stream Determination Data Forms

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: STR-1	Date/Time: 11/18/2024 9:30
Assessors/Affiliation: C. Brueck (QHP-IT), M. Piehl	Project ID : 3832801
Site Name/Description: Humboldt Municipal Airport	
Site Location: Humboldt, Gibson and Madison Counties, Tennessee	
HUC (12 digit): Moize Creek-Middle Fork Forked Deer River (080102040105)	Latitude: Start: 35.8057908 End: 35.8084259
Previous Rainfall (7-days) : 1.06" (CoCoRaHs # TN-GB-18)	Longitude: Start: -88.8688986 End: -88.8688886
Precipitation this Season vs. Normal : elevated Source of recent & seasonal precip. data : USACE Antecedent Precipitation Tool	
Watershed Size : 0.17 sq. mi. (USGS Stream Stats)	County: Gibson
Soil Type(s) / Geology : LME3—Lexington, Smithdale and Providence soils, 12 to 30 percent slopes, severely eroded	Source: NRCS Soil Survey
Surrounding Land Use : Aeronautical, Residential, Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✔	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✔	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	✔	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✔	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✔	Stream
6. Presence of fish (except *Gambusia*)	✔	Stream
7. Presence of naturally occurring ground water table connection	✔	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✔	Stream
9. Evidence watercourse has been used as a supply of drinking water	✔	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 31.75

Justification / Notes :

-Intermittent Stream, continues offsite

-Very incised, more than 10-15 feet

-Some riffles and pools, impacted by dam/culvert in lower reach with large pool

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 16.75)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	2
4. Sorting of soil textures or other substrate	0	1	2	3	3
5. Active/relic floodplain	0	0.5	1	1.5	0.25
6. Depositional bars or benches	0	1	2	3	2.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.25
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	1.25
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	2

B. Hydrology (Subtotal = 6.25)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	1.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	1.5
16. Leaf litter in channel	1.5	1	0.5	0	NA
17. Sediment on plants or on debris	0	0.5	1	1.5	0.75
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 8.75)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	3
21. Rooted plants in the thalweg [1]	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macrobenthos (record type & abundance)	0	1	2	3	1
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	1.25

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 31.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Multiple standing pools of water but no discernible flow, one very large standing pool. Flowing water at end of reach flowing offsite.

-Hydric soils throughout

-Isopods and amphipods present, few adult frogs observed

-Black willows present throughout reach

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: STR-2	Date/Time: 11/18/2024 10:15
Assessors/Affiliation: C. Brueck (QHP-IT), M. Piehl	Project ID : 3832801
Site Name/Description: Humboldt Municipal Airport	
Site Location: Humboldt, Gibson and Madison Counties, Tennessee	
HUC (12 digit): Moize Creek-Middle Fork Forked Deer River (080102040105)	Latitude: Start: 35.8065875 End: 35.8063773
Previous Rainfall (7-days) : 1.06" (CoCoRaHs # TN-GB-18)	Longitude: Start: -88.8670408 End: -88.8689191
Precipitation this Season vs. Normal : elevated Source of recent & seasonal precip. data : USACE Antecedent Precipitation Tool	
Watershed Size : 0.05 sq. mi. (USGS Stream Stats)	County: Gibson
Soil Type(s) / Geology : Co: Collins silt loam, 0 to 2 percent slopes, occasionally flooded, brief duration	Source: NRCS Soil Survey
Surrounding Land Use : Aeronautical, Residential, Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Slight	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✔	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✔	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	✔	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✔	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✔	Stream
6. Presence of fish (except *Gambusia*)	✔	Stream
7. Presence of naturally occurring ground water table connection	✔	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✔	Stream
9. Evidence watercourse has been used as a supply of drinking water	✔	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 23.00

Justification / Notes :

-Intermittent Stream, drains into STR-1, unable to confirm upper reach due to no landowner access

-Very incised, more than 10-15 feet

-Mostly riffle with a few pools

-Drains into STR-1

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 12.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	2.5
2. Sinuous channel	0	1	2	3	1.5
3. In-channel structure: riffle-pool sequences	0	1	2	3	1.5
4. Sorting of soil textures or other substrate	0	1	2	3	2.5
5. Active/relic floodplain	0	0.5	1	1.5	0.5
6. Depositional bars or benches	0	1	2	3	1.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	0
11. Grade controls	0	0.5	1	1.5	0.75
12. Natural valley or drainageway	0	0.5	1	1.5	0.5
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 5.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	1
15. Water in channel and >48 hours since sig. rain	0	1	2	3	1
16. Leaf litter in channel	1.5	1	0.5	0	NA
17. Sediment on plants or on debris	0	0.5	1	1.5	1
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	1
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 5.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	2.5
21. Rooted plants in the thalweg [1]	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 23.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Standing pools and saturated

-Hydric soils throughout

-Sorting of sand and gravel into bars and benches lower reach

-Moderate sediment on plants and wrack lines consisting of small sticks and branches

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: STR-3		Date/Time: 11/18/2024 12:35
Assessors/Affiliation: C. Brueck (QHP-IT), M. Piehl		Project ID : 3832801
Site Name/Description: Humboldt Municipal Airport		
Site Location: Humboldt, Gibson and Madison Counties, Tennessee		
HUC (12 digit): Moize Creek-Middle Fork Forked Deer River (080102040105)	Latitude:	Start: 35.7977184 End: 35.7981385
Previous Rainfall (7-days) : 1.06" (CoCoRaHs # TN-GB-18)	Longitude:	Start: -88.8823672 End: -88.8835816
Precipitation this Season vs. Normal : elevated Source of recent & seasonal precip. data :	USACE Antecedent Precipitation Tool	
Watershed Size : 0.08 sq. mi. (USGS Stream Stats)	County: Gibson	
Soil Type(s) / Geology : PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded	Source: NRCS Soil Survey	
Surrounding Land Use : Aeronautical, Residential, Agricultural		
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate		

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✔	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✔	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	✔	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✔	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✔	Stream
6. Presence of fish (except *Gambusia*)	✔	Stream
7. Presence of naturally occurring ground water table connection	✔	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✔	Stream
9. Evidence watercourse has been used as a supply of drinking water	✔	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = STREAM

Secondary Indicator Score (if applicable) = 31.00

Justification / Notes :

-Intermittent Stream, drains into offsite stream

-Very incised, more than 10-15 feet

-Multiple standing pools of water and water in much of thalweg, but no discernible flow

-Impacted in upper reach where berm has been built and water impounds before flowing through drain into channel

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 17.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	3
2. Sinuous channel	0	1	2	3	2
3. In-channel structure: riffle-pool sequences	0	1	2	3	2
4. Sorting of soil textures or other substrate	0	1	2	3	2.5
5. Active/relic floodplain	0	0.5	1	1.5	0.5
6. Depositional bars or benches	0	1	2	3	2.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	1.25
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	3
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.75
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 6.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	1.5
15. Water in channel and >48 hours since sig. rain	0	1	2	3	1.5
16. Leaf litter in channel	1.5	1	0.5	0	NA
17. Sediment on plants or on debris	0	0.5	1	1.5	0.75
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		1.5

C. Biology (Subtotal = 7.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	3
21. Rooted plants in the thalweg [1]	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0.5
25. Macrobenthos (record type & abundance)	0	1	2	3	1
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 31.00

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Isopods and amphipods

-Few adult frogs observed

-Sorting of sand and gravel into bars and benches, cobble substrate also present

-Strong headcut at base of culvert where water drains into incised reach

-Consistent recent alluvial deposits of sand

Tennessee Department of Environment and Conservation - Division of Water Resources
312 Rosa L. Parks Ave. 11th Floor. Nashville, TN 37243

Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: WWC/ES-1	Date/Time: 11/18/2024 10:00
Assessors/Affiliation: C. Brueck (QHP-IT), M. Piehl	Project ID : 3832801
Site Name/Description: Humboldt Municipal Airport	
Site Location: Humboldt, Gibson and Madison Counties, Tennessee	
HUC (12 digit): Moize Creek-Middle Fork Forked Deer River (080102040105)	Latitude: Start: 35.8076695 End: 35.8077995
Previous Rainfall (7-days) : 1.06" (CoCoRaHs # TN-GB-18)	Longitude: Start: -88.8692489 End: -88.8689087
Precipitation this Season vs. Normal : elevated Source of recent & seasonal precip. data : USACE Antecedent Precipitation Tool	
Watershed Size : ~0.01 sq. mi. (USGS Stream Stats)	County: Gibson
Soil Type(s) / Geology : LME3—Lexington, Smithdale and Providence soils, 12 to 30 percent slopes, severely eroded	Source: NRCS Soil Survey
Surrounding Land Use : Aeronautical, Residential, Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Moderate	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✔	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✔	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	✔	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✔	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✔	Stream
6. Presence of fish (except *Gambusia*)	✔	Stream
7. Presence of naturally occurring ground water table connection	✔	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✔	Stream
9. Evidence watercourse has been used as a supply of drinking water	✔	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 14.75

Justification / Notes :

-Erosional Swale, drains into STR-1

-Impacted by recent vegetation maintenance in the area

-Some accumulated eroded soil, mostly stripped to clay bottom

-Multiple small head cuts and large headcut before draining into STR-1

-Moderate valley on one side and weak on the other.

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 8.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	1
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2.5
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.75
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.25)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel	1.5	1	0.5	0	NA
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 5.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	2
21. Rooted plants in the thalweg [1]	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 14.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Dry Channel

-Incised in some areas, less defined in others

Tennessee Department of Environment and Conservation - Division of Water Resources
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Hydrologic Determination Field Data Sheet

Tennessee Division of Water Resources, Version 1.5 (Fillable Form)

Named Waterbody: WWC/ES-2	Date/Time: 11/18/2024 12:55
Assessors/Affiliation: C. Brueck (QHP-IT), M. Piehl	Project ID : 3832801
Site Name/Description: Humboldt Municipal Airport	
Site Location: Humboldt, Gibson and Madison Counties, Tennessee	
HUC (12 digit): Moize Creek-Middle Fork Forked Deer River (080102040105)	Latitude: Start: 35.7973938 End: 35.7976430
Previous Rainfall (7-days) : 1.06" (CoCoRaHs # TN-GB-18)	Longitude: Start: -88.8832775 End: -88.8831003
Precipitation this Season vs. Normal : elevated Source of recent & seasonal precip. data : USACE Antecedent Precipitation Tool	
Watershed Size : <0.01 sq. mi. (USGS Stream Stats)	County: Gibson
Soil Type(s) / Geology : PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded	Source: NRCS Soil Survey
Surrounding Land Use : Aeronautical, Residential, Agricultural	
Degree of historical alteration to natural channel morphology & hydrology (select one & describe fully in Notes) : Slight	

Primary Field Indicators Observed

Primary Indicators	NO	YES
1. Hydrologic feature exists solely due to a process discharge	✔	WWC
2. Defined bed and bank absent, vegetation composed of upland and FACU species	✔	WWC
3. Watercourse dry anytime during February through April 15th, under normal precipitation / groundwater conditions N/A	✔	WWC
4. Daily flow and precipitation records showing feature only flows in direct response to rainfall	✔	WWC
5. Presence of multiple populations of obligate lotic organisms with ≥ 2 month aquatic phase	✔	Stream
6. Presence of fish (except *Gambusia*)	✔	Stream
7. Presence of naturally occurring ground water table connection	✔	Stream
8. Flowing water in channel and 7 days since last precip >0.1" in local watershed	✔	Stream
9. Evidence watercourse has been used as a supply of drinking water	✔	Stream

NOTE: If any Primary Indicators 1-9 = "Yes", then no further investigation is necessary. However, assessors may choose to score secondary indicators as supporting evidence.

In the absence of a primary indicator, or other definitive evidence, complete the secondary indicator table on page 2 of this sheet, and provide score below.

Guidance for the interpretation and scoring of both the primary & secondary indicators is provided in *TDEC-DWR Guidance For Making Hydrologic Determinations, Version 1.5*

Overall Hydrologic Determination = WET WEATHER CONVEYANCE

Secondary Indicator Score (if applicable) = 15.75

Justification / Notes :

-Erosional Swale, drains into STR-3 from agricultural field

-Incised in some areas, less defined in others

-Some accumulated eroded soil, mostly stripped to clay bottom

-Multiple small head cuts and large headcut before draining into STR-3

Secondary Field Indicator Evaluation

A. Geomorphology (Subtotal = 9.50)	**Absent**	**Weak**	**Moderate**	**Strong**	
1. Continuous bed and bank	0	1	2	3	2
2. Sinuous channel	0	1	2	3	2
3. In-channel structure: riffle-pool sequences	0	1	2	3	1
4. Sorting of soil textures or other substrate	0	1	2	3	0
5. Active/relic floodplain	0	0.5	1	1.5	0
6. Depositional bars or benches	0	1	2	3	0.5
7. Braided channel	0	1	2	3	0
8. Recent alluvial deposits	0	0.5	1	1.5	0.75
9. Natural levees	0	1	2	3	0
10. Headcuts	0	1	2	3	2.5
11. Grade controls	0	0.5	1	1.5	0
12. Natural valley or drainageway	0	0.5	1	1.5	0.75
13. At least second order channel on existing USGS or NRCS map	0	1	2	3	0

B. Hydrology (Subtotal = 1.25)	**Absent**	**Weak**	**Moderate**	**Strong**	
14. Subsurface flow/discharge into channel	0	1	2	3	0
15. Water in channel and >48 hours since sig. rain	0	1	2	3	0
16. Leaf litter in channel	1.5	1	0.5	0	NA
17. Sediment on plants or on debris	0	0.5	1	1.5	0.5
18. Organic debris lines or piles (wrack lines)	0	0.5	1	1.5	0.75
19. Hydric soils in channel bed or sides of channel	No = 0		Yes = 1.5		0

C. Biology (Subtotal = 5.00)	**Absent**	**Weak**	**Moderate**	**Strong**	
20. Fibrous roots in channel bed [1]	3	2	1	0	2
21. Rooted plants in the thalweg [1]	3	2	1	0	3
22. Crayfish in stream (exclude in floodplain)	0	1	2	3	0
23. Bivalves/mussels	0	1	2	3	0
24. Amphibians	0	0.5	1	1.5	0
25. Macrobenthos (record type & abundance)	0	1	2	3	0
26. Filamentous algae; periphyton	0	1	2	3	0
27. Iron oxidizing bacteria/fungus	0	0.5	1	1.5	0
28. Wetland plants in channel bed [2]	0	0.5	1	1.5	0

[1] Focus is on the presence of terrestrial plants.

[2] Focus is on the presence of aquatic or wetland plants.

Total Points = 15.75

Under Normal Conditions, Watercourse is a Wet Weather Conveyance if Secondary Indicator Score < 19 points

Notes :

-Dry Channel

-Very Few Weak Pools

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Humboldt Municipal Airport City/County: Humboldt/Gibson Sampling Date: 11/18/2024

Applicant/Owner: Humboldt Municipal Airport State: TN Sampling Point: WTL-1

Investigator(s): C. Brueck (QHP-IT), M. Piehl Section, Township, Range:

Landform (hillside, terrace, etc.): Drainageway/Depression Local relief (concave, convex, none): Concave Slope (%): 1-2

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.7974943 Long: -88.8819265 Datum: NAD83

Soil Map Unit Name: PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded NWI classification: PEM

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

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

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

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

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

Remarks:
-Wetter than average conditions
-Drainageway, created by constructed berm wall at end of agricultural drainage that causes water to pond and alters hydrology
-Inlet structure within wetland drains it into STR-3
-Vegetation disturbed by agricultural activities

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WTL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft)			
1. *Phalaris arundinacea*	30	Yes	OBL
2. *Panicum dichotomiflorum*	25	Yes	FACW
3. *Persicaria longiseta*	15	Yes	FAC
4. *Rumex crispus*	15	Yes	FAC
5. *Setaria pumila*	10	No	FAC
6. *Ludwigia alternifolia*	10	No	OBL
7. *Sorghum halepense*	5	No	FACU
8.			
9.			
10.			
11.			
12.			
	110 =Total Cover		
50% of total cover: 55	20% of total cover: 22		
Woody Vine Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	25	x 2 =	50
FAC species	40	x 3 =	120
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	110 (A)		230 (B)

Prevalence Index = B/A = 2.09

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

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

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

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

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

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

SOIL Sampling Point: WTL-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	70	7.5YR 4/6	25	C	M	Loamy/Clayey	Prominent redox concentrations
			10YR 7/1	5	D	M		
8-16	10YR 4/6	90	10YR 5/2	10	D	M	Loamy/Clayey	
16-18	10YR 5/2	70	7.5YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Humboldt Municipal Airport City/County: Humboldt/Gibson Sampling Date: 11/18/2024

Applicant/Owner: Humboldt Municipal Airport State: TN Sampling Point: UPL-1

Investigator(s): C. Brueck (QHP-IT), M. Piehl Section, Township, Range:

Landform (hillside, terrace, etc.): Hillslope/Soy Field Local relief (concave, convex, none): Convex Slope (%): 2-4

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.7975915 Long: -88.8818448 Datum: NAD83

Soil Map Unit Name: PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded NWI classification: Upland

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

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

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

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

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

Remarks:
-Wetter than average conditions
-Vegetation and soils disturbed due to agricultural 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 on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:
-No wetland hydrology indicators observed

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: UPL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft)			
1. *Glycine max*	80	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 =Total Cover		
50% of total cover: 40	20% of total cover: 16		
Woody Vine Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	80	x 5 =	400
Column Totals:	80 (A)		400 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

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

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

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

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

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

SOIL

Sampling Point: UPL-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/4	100					Loamy/Clayey	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Humboldt Municipal Airport City/County: Humboldt/Gibson Sampling Date: 11/18/2024

Applicant/Owner: Humboldt Municipal Airport State: TN Sampling Point: WTL-2

Investigator(s): C. Brueck (QHP-IT), M. Piehl Section, Township, Range:

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-1

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.796826 Long: -88.882962 Datum: NAD83

Soil Map Unit Name: PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded NWI classification: PEM

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

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

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

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

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

Remarks:
-Wetter than normal conditions
-Isolated wetland above berm in agricultural field
-Vegetation and soils disturbed due to agricultural activities

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches): 3
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

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

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: WTL-2

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft)			
1. *Panicum dichotomiflorum*	30	Yes	FACW
2. *Ammannia coccinea*	10	Yes	OBL
3. *Cyperus esculentus*	5	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 =Total Cover		
50% of total cover: 23	20% of total cover: 9		
Woody Vine Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	45 (A)		85 (B)

Prevalence Index = B/A = 1.89

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

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

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

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

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

Remarks: (If observed, list morphological adaptations below.)
-Stunted soy from last years crop did not grow in depression

SOIL Sampling Point: WTL-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 5/2	72	10YR 4/6	20	C	M	Loamy/Clayey	
			10YR 6/2	8	D	M		
12-18	10YR 6/2	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Humboldt Municipal Airport City/County: Humboldt/Gibson & Madison Sampling Date: 11/18/2024

Applicant/Owner: Humboldt Municipal Airport State: TN Sampling Point: UPL-2

Investigator(s): C. Brueck (QHP-IT), M. Piehl Section, Township, Range:

Landform (hillside, terrace, etc.): Hillslope/Soy Field Local relief (concave, convex, none): Convex Slope (%): 1-3

Subregion (LRR or MLRA): LRR P, MLRA 134 Lat: 35.7966847 Long: -88.8827182 Datum: NAD83

Soil Map Unit Name: PrD3—Providence silt loam, 8 to 15 percent slopes, severely eroded NWI classification: Upland

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

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

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

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

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

Remarks:
-wetter than average conditions
-Vegetation and soils disturbed by agricultural 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 on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:
-No wetland hydrology indicators observed

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

Sampling Point: UPL-2

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	=Total Cover		
50% of total cover:	20% of total cover:		
Herb Stratum (Plot size: 5 ft)			
1. *Glycine max*	70	Yes	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 =Total Cover		
50% of total cover: 35	20% of total cover: 14		
Woody Vine Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	70	x 5 =	350
Column Totals:	70 (A)		350 (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

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

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

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

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

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

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

SOIL

Sampling Point: UPL-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100					Loamy/Clayey	
6-18	10YR 4/6	70	10YR 7/2	30	D	M	Loamy/Clayey	

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

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

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Atlantic and Gulf Coastal Plain Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 8.0, 2016.

APPENDIX E – Photographic Summary

Photo: 1
By: C. Brueck
Date: November 18, 2024
Feature: STR-1
Lat: 35.80546
Long: -88.86622

Representative conditions of STR-1 facing upstream in the upper reach after entering the site.

Photo: 2
By: C. Brueck
Date: November 18, 2024
Feature: STR-1
Lat: 35.80781
Long: -88.86895

Representative conditions of STR-1 mid reach.

Photo: 3
By: C. Brueck
Date: November 18, 2024
Feature: STR-1
Lat: 35.80818
Long: -88.86897

Representative conditions of STR-1 facing upstream lower reach.

Photo: 4
By: C. Brueck
Date: November 18, 2024
Feature: STR-1
Lat: 35.80820
Long: -88.86898

Representative conditions of STR-1 facing downstream in the lower reach going offsite.

Photo: 5
By: C. Brueck
Date: November 18, 2024
Feature: STR-2
Lat: 35.80635
Long: -88.86875

Representative conditions of STR-2 mid reach facing downstream.

Photo: 6
By: C. Brueck
Date: November 18, 2024
Feature: STR-2
Lat: 35.80657
Long: -88.86895

Representative conditions of STR-2 facing upstream lower reach.

Photo: 7
By: C. Brueck
Date: November 18, 2024
Feature: STR-2
Lat: 35.80632
Long: -88.86894

Representative conditions of STR-2 facing downstream lower reach.

Photo: 8
By: C. Brueck
Date: November 18, 2024
Feature: STR-3
Lat: 35.79778
Long: -88.88245

Representative conditions of STR-3 facing downstream upper reach.

Photo: 9
By: C. Brueck
Date: November 18, 2024
Feature: STR-3
Lat: 35.79774
Long: -88.88249

Representative conditions of STR-3 facing upstream upper reach.

Photo: 10
By: C. Brueck
Date: November 18, 2024
Feature: STR-3
Lat: 35.79803
Long: -88.88251

Representative conditions of STR-3 facing downstream mid reach.

Photo: 11
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-1
Lat: 35.80777
Long: -88.86904

Representative conditions WWC/ES-1 facing upslope upper reach. Note that the channel is obscured by brush.

Photo: 12
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-1
Lat: 35.80772
Long: -88.86904

Representative conditions WWC/ES-1 facing downslope upper reach. Note that the channel is obscured by brush.

Photo: 13
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-1
Lat: 35.80779
Long: -88.86908

Representative soils within WWC/ES-1

Photo: 14
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-2
Lat: 35.79784
Long: -88.8830

Representative conditions of WWC/ES-2 facing downslope lower reach.

Photo: 15
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-2
Lat: 35.79762
Long: -88.88311

Representative conditions of WWC/ES-2 facing upslope lower reach.

Photo: 16
By: C. Brueck
Date: November 18, 2024
Feature: WWC/ES-2
Lat: 35.79740
Long: -88.88322

Representative conditions of WWC/ES-2 facing upslope upper reach.

Photo: 17
By: C. Brueck
Date: November 18, 2024
Feature: D-1
Lat: 35.79709
Long: -88.88062

Representative conditions of riprap ditch D-1 facing upslope near the end of the reach

Photo: 18
By: C. Brueck
Date: November 18, 2024
Feature: D-1
Lat: 35.79696
Long: -88.88020

Representative conditions of riprap ditch D-1 facing downslope lower reach before dissipating into overland sheet flow.

Photo: 19
By: C. Brueck
Date: November 18, 2024
Feature: WTL-1
Lat: 35.79753
Long: -88.88199

Representative conditions of WTL-1 located in the southwestern portion of the site.

Photo: 20
By: C. Brueck
Date: November 18, 2024
Feature: WTL-1
Lat: 35.79746
Long: -88.88206

Representative conditions of WTL-1 located in the southwestern portion of the site.

Photo: 21
By: C. Brueck
Date: November 18, 2024
Feature: WTL-1
Lat: 35.79747
Long: -88.88200

Representative conditions of WTL-1 located in the southwestern portion of the site.

Photo: 22
By: C. Brueck
Date: November 18, 2024
Feature: WTL-2
Lat: 35.79683
Long: -88.88303

Representative conditions of WTL-2 located in the southwestern portion of the site.

Photo: 23
By: C. Brueck
Date: November 18, 2024
Feature: WTL-2
Lat: 35.79686
Long: -88.88298

Representative conditions of WTL-2 located in the southwestern portion of the site.

Photo: 24
By: C. Brueck
Date: November 18, 2024
Feature: No Access Area/P-1
Lat: 35.80622
Long: -88.86920

View of the no access area in the northeastern portion of the site. P-1 was identified in this area from aerial imagery.

Photo: 25
By: C. Brueck
Date: November 18, 2024
Feature: Humboldt Airport Runway
Lat: 35.80626
Long: -88.86932

Representative conditions of the main runway of the Humboldt Municipal Airport

Photo: 26
By: C. Brueck
Date: November 18, 2024
Feature: Humboldt Airport Runway
Lat: 35.80554
Long: -88.86993

Representative conditions of the main runway of the Humboldt Municipal Airport

Photo: 27
By: C. Brueck
Date: November 18, 2024
Feature: Agricultural Field
Lat: 35.79532
Long: -88.88223

Representative conditions for agricultural fields present onsite.

Photo: 28
By: C. Brueck
Date: November 18, 2024
Feature: Agricultural Field
Lat: 35.79505
Long: -88.88474

Representative conditions for agricultural fields present onsite.

Photo: 29
By: C. Brueck
Date: November 18, 2024
Feature: Fallow Field
Lat: 35.79740
Long: -88.88229

Representative conditions of a small fallow field present on a berm onsite.

Photo: 30
By: C. Brueck
Date: November 18, 2024
Feature: Fallow Field
Lat: 35.79737
Long: -88.88245

Representative conditions of a small fallow field present on a berm onsite.

Photo: 31
By: C. Brueck
Date: November 18, 2024
Feature: Mixed Hardwood Forest
Lat: 35.80594
Long: -88.86903

Representative conditions of mixed hardwood forest areas onsite.

Photo: 32
Date: November 18, 2024
Feature: Mixed Hardwood Forest
Lat: 35.80809
Long: -88.86901

Representative conditions of mixed hardwood forest areas onsite.

Photo: 33
Date: November 18, 2024
Feature: Mixed Hardwood Forest
Lat: 35.80816
Long: -88.86898

Representative conditions of mixed hardwood forest areas onsite.

Photo: 34
By: C. Brueck
Date: November 18, 2024
Feature: Brushy Cleared Land
Lat: 35.80737
Long: -88.86982

Representative conditions of brushy cleared land onsite.

Photo: 35
By: C. Brueck
Date: November 18, 2024
Feature: Brushy Cleared Land
Lat: 35.80726
Long: -88.86973

Representative conditions of brushy cleared land onsite.

Photo: 36
By: C. Brueck
Date: November 18, 2024
Feature: Brushy Cleared Land
Lat: 35.80789
Long: -88.86962

Representative conditions of brushy cleared land onsite.

Photo: 37
By: C. Brueck
Date: November 18, 2024
Feature: Residential Yard/Mowed Lawn
Lat: 35.79492
Long: -88.88298

Representative conditions of the residential yards located onsite.

Photo: 38
By: C. Brueck
Date: November 18, 2024
Feature: Residential Yard/Mowed Lawn
Lat: 35.79490
Long: -88.88302

Representative conditions of the residential yards located onsite.

Photo: 39
By: C. Brueck
Date: November 18, 2024
Feature: Residential Yard/Mowed Lawn
Lat: 35.79536
Long: -88.88432

Representative conditions of the residential yards located onsite.

APPENDIX F – Rare, Threatened and Endangered Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee Ecological Services Field Office
446 Neal Street
Cookeville, TN 38501-4027
Phone: (931) 528-6481 Fax: (931) 528-7075

In Reply Refer To: 06/13/2025 12:57:43 UTC
Project Code: 2025-0108380
Project Name: Humbolt Airport

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Tennessee Ecological Services Field Office
446 Neal Street
Cookeville, TN 38501-4027
(931) 528-6481

PROJECT SUMMARY

Project Code: 2025-0108380
Project Name: Humbolt Airport
Project Type: Airport - Maintenance/Modification
Project Description: Obstruction removal of all trees at ground level. All stumps and rootballs will remain in place. Trees and root balls on sloped land near streams will be left in place to minimize erosion.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.79652125,-88.88267854456706,14z

Counties: Gibson and Madison counties, Tennessee

ENDANGERED SPECIES ACT SPECIES

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Whorled Sunflower *Helianthus verticillatus* Population: There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3375	Endangered

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

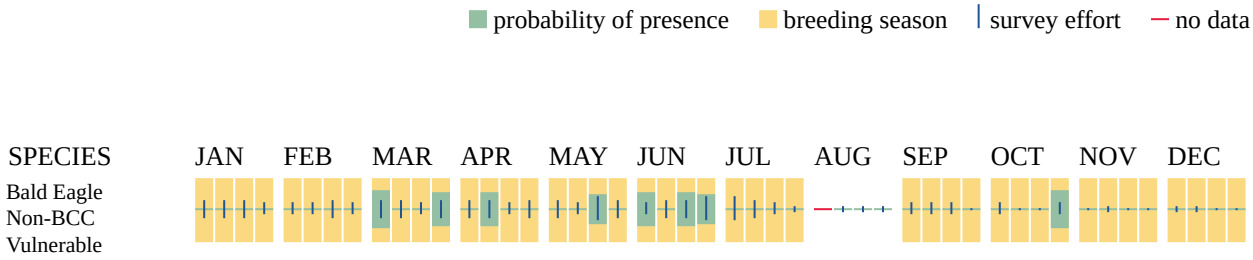
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel *Falco sparverius paulus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Chuck-will's-widow *Antrostomus carolinensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10

NAME	BREEDING SEASON
Coastal (waynes) Black-throated Green Warbler *Setophaga virens waynei* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11879	Breeds May 1 to Aug 15
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10678	Breeds May 1 to Aug 20
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere

NAME	BREEDING SEASON
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

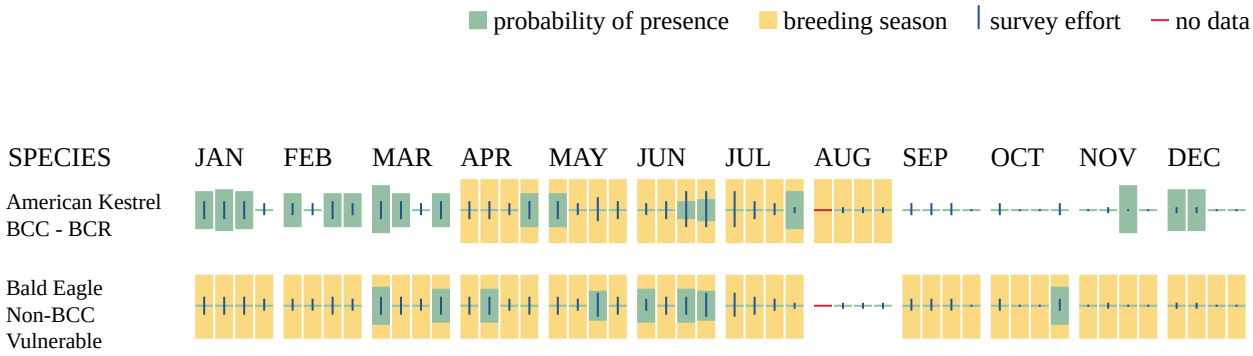
Probability of Presence (■)

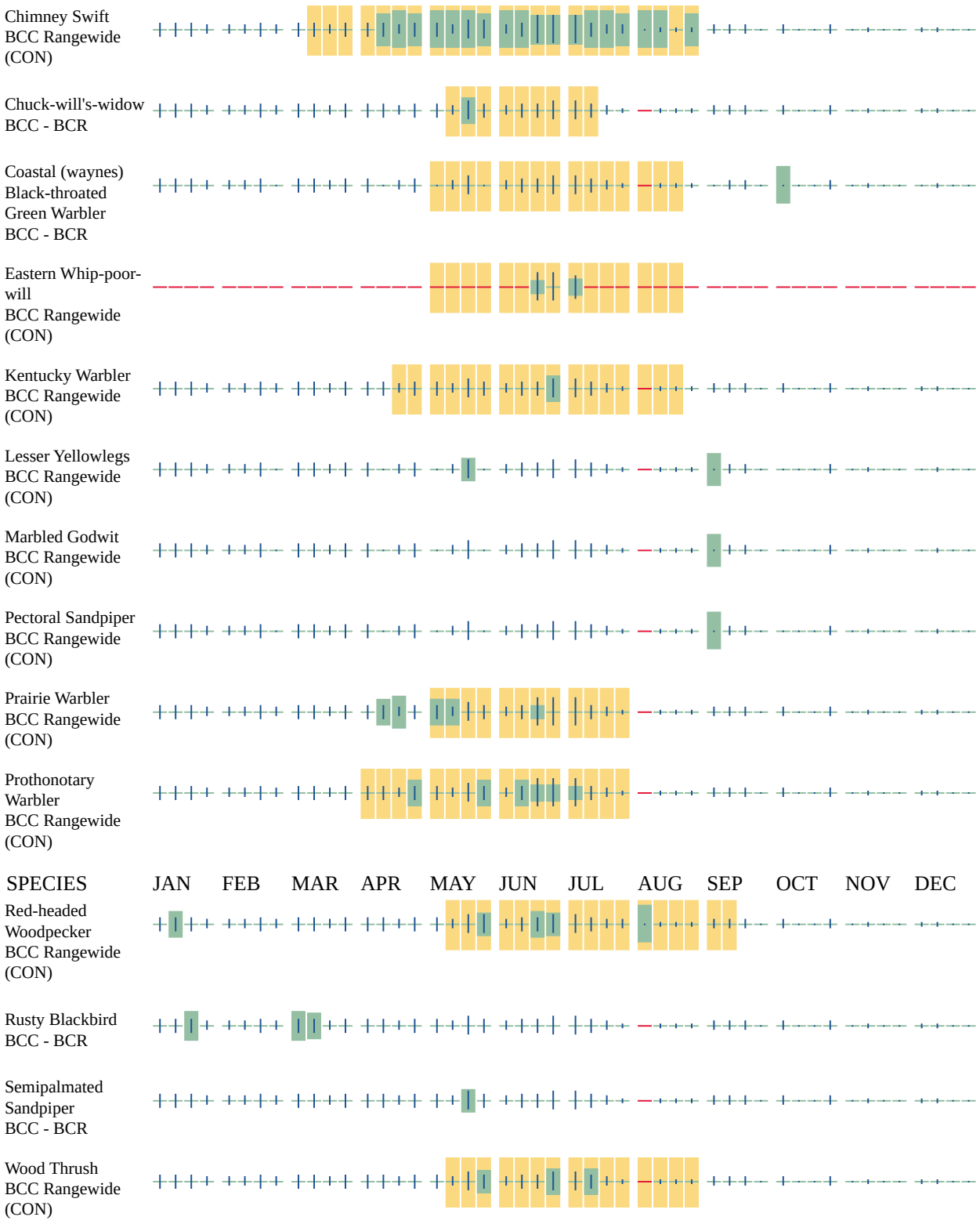
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R5UBH

FRESHWATER POND

- PUBHh

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration
Name: Chantel Wright
Address: 520 West Summit Hill Drive, Suite 1202
City: Knoxville
State: TN
Zip: 37902
Email chantel.wright@bargedesign.com
Phone: 8659344154

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration

Help

- Download Status and Ranks

Key to Status and Ranks

Rare Species by USGS 1:24K Quadrangle

Data is refreshed on or around January and July each year.

Go | Rows 25 | Actions

Quad Name contains 'Humboldt'

1 - 1 of 1

Quad Name	Quad ID	Type	Category	Scientific Name	Common Name	Global Rank	State Rank	Fed. Status	State Status	Habitat	Wet Habitat Flag
HUMBOLDT	3508878	Vascular Plant	Flowering Plant	Iris fulva	Copper Iris	G5	S2	--	T	Bottomlands	Possible

1 - 1 of 1

Help

Key to Status and Ranks

- Download Status and Ranks

Rare Species by USGS 1:24K Quadrangle

Data is refreshed on or around January and July each year.

Go | Rows 25 | Actions

Quad Name contains 'Medina'

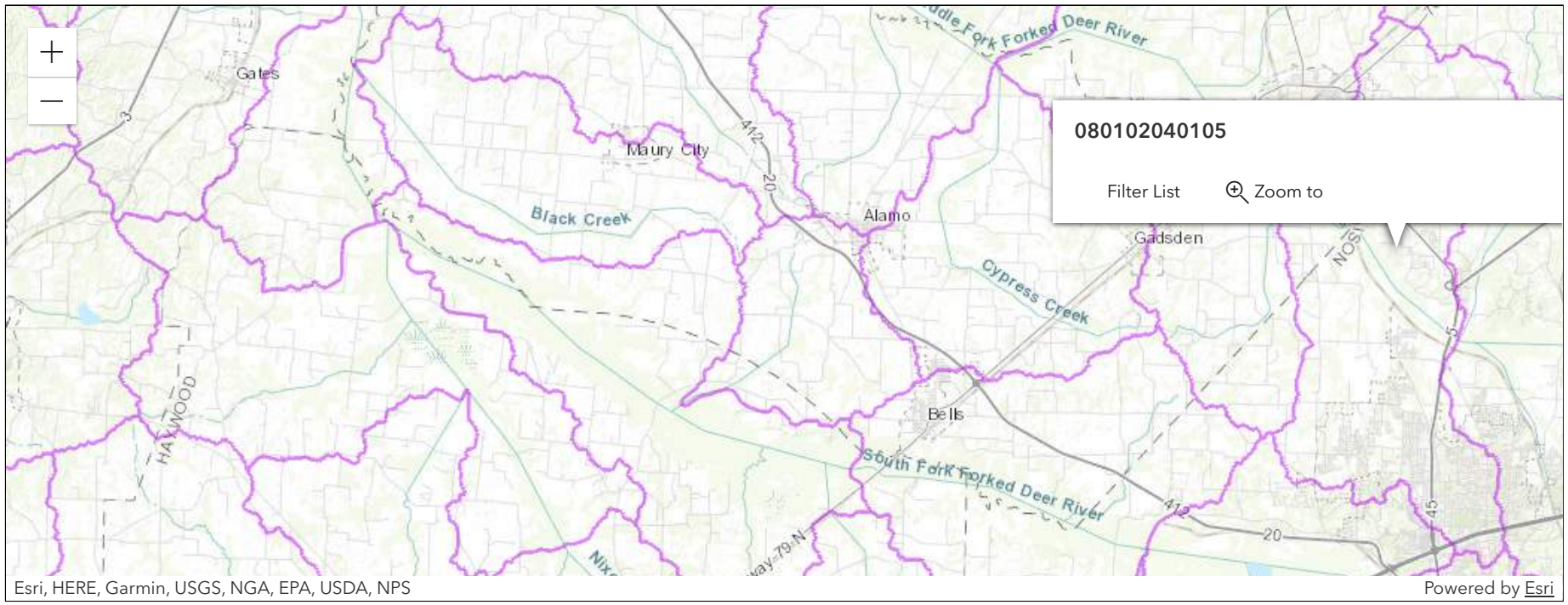
No data found.

Help

Key to Status and Ranks

- Download Status and Ranks

Watershed Map



Use the mouse to pan and slider bar to zoom to your area of interest. Then click that area to identify the watershed (purple).

Rare Species By Tennessee Watershed

Data is refreshed on or around January and July each year.

Go | Actions

Row text contains '080102040105'

No data found.

Please deselect the filter(s) that you do not wish to display. Only 1 filter can be displayed at any given time.

Attachment E – USFWS & TWRA & TDEC Consultation

Clarification concerning coordination with the Tennessee Department of Environment and Conservation (TDEC), referenced in Section 1.6 – Necessary Permits of this Environmental Assessment.

Section 1.6 explains that all proposed tree removal activities are located on upland areas and do not involve any trees, vegetation, or ground disturbance within streams, wetlands, or other jurisdictional waters. Accordingly, an Aquatic Resource Alteration Permit (ARAP), Section 401 Water Quality Certification, or Section 404 Permit from the U.S. Army Corps of Engineers was not required.

Because the project does not affect waters of the state or involve ground disturbance within aquatic resources, formal consultation with TDEC's Division of Water Resources or Division of Natural Areas resulted in limited comments.

If future site conditions or the unsurveyed portion of Zone 2 reveal any jurisdictional features or sensitive resources, the City of Humboldt will coordinate with TDEC and other appropriate agencies prior to beginning any work and will obtain all required authorizations before tree removal.

Reference: Section 1.6 – Necessary Permits, Humboldt Municipal Airport Obstruction Clearing Environmental Assessment (August 2025).

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
NASHVILLE, TENNESSEE 37243-0435

DAVID W. SALYERS, P.E.
COMMISSIONER

BILL LEE
GOVERNOR

November 12, 2025

Via Electronic Mail to josh.abramson@bargedesign.com
Josh Abramson, PMP, CM
615 3rd Avenue South, Suite 700
Nashville, TN 37210

Dear Mr. Abramson:

The Tennessee Department of Environment and Conservation (TDEC) appreciates the opportunity to provide comments on the Humbolt Municipal Airport's (Airport) Environmental Assessment (EA) for the removal of obstructions for two zones identified in the project study area of the Airport which serves the aviation needs of the City of Humbolt, TN's Gibson and Madison Counties, and surrounding communities. The purpose of this project is to remove obstructions penetrating the approach surfaces of the identified runway or that may penetrate one of the approach surfaces of the runway in the next five years.

The EA evaluates the environmental impacts associated with the following two alternatives:

- Alternative A – No Action Alternative: If no action is taken, the trees will continue to be obstructions to aviation. Over time, tree heights would increase, thus increasing the hazard to aviation.

- Alternative B – Implement the Findings of the Obstruction Removal Study: The obstruction removal study performed for the Airport's approach surfaces identified 119 trees penetrating one or more of the surface approaches and 184 trees that have not penetrated one of the surface approaches but may do so in the next five years (Figure 2.1-a, b). The intent is to cut all trees at ground level and leave the root balls in place. Trees on the upland may be left in place or removed. Trees and root balls on sloped land near streams will be left in place to minimize erosion. Some of the obstructions are on Airport property and others are on privately owned land. New avigation easements will be sought for areas not currently under an easement. Securing these easements would provide the legal authority to manage obstructions as they arise, avoiding the need for future renegotiations with property owners. This approach offers a strategic long-term solution for proactive airspace management around the Airport.

TDEC is the environmental and natural resource regulatory agency in Tennessee with delegated responsibility from the U.S. Environmental Protection Agency (EPA) to regulate sources of air pollution; solid and hazardous waste; underground storage tanks; and water resources. TDEC has reviewed the EA and offers the following comments regarding the proposed project:

Division of Air Pollution Control (APC)

Idling: Truck traffic associated with construction projects generate emissions of PM, CO, NO_2, SO_2, VOC, and CO_2, and APC recommends the operation of trucks with up-to-date emission control technologies and proper maintenance to minimize vehicle and equipment emissions. APC also recommends the adoption of best practices to minimize vehicle idling to minimize the impact of mobile source emissions on ambient air quality.

Open Burning: If disposal of trees or vegetation is necessary during construction, APC recommends the evaluation of alternatives to open burning. Tennessee's open burning regulations can be found at https://publications.tnsosfiles.com/rules/1200/1200-03/1200-03-04.pdf.

Fugitive Dust: If fugitive dust will be generated from construction activities, APC recommends the use of wet suppression or other measures to minimize the generation of fugitive dust.

Finally, APC notes that the link in the attached screenshot (page 14 of the draft EA) appears to be broken.

> Humboldt Municipal Airport
> Environmental Assessment
>
> (https://www.arcgis.com/apps/mapviewer/index.html?layers=2a487fb6c56e492e8e2e66608d9b93d6), the Project Site is in attainment for the six common air pollutants.

Division of Solid Waste Management (DSWM)

DSWM strongly recommends that any wastes associated with construction of the proposed project — construction may include but is not limited to the following: unforeseen damages and repairs, cleanup, grading, excavation, testing of subsurface conditions, confining

sediment, surface stabilization, leaks, and spills — must be handled in accordance with the Solid and Hazardous Waste Rules and Regulations of the state. This includes all materials that would be classified as solid and/or hazardous wastes per these chapters.

DWSM understands the proposed project would entail the removal of vegetative obstructions that penetrate approach surfaces to maintain a safe operating environment for current and future users of the Airport and to maintain the Airport's status as a General Aviation facility. Based on an obstruction removal study, 119 trees are penetrating one or more surface approaches and 184 trees that have not yet penetrated surfaces but may do so in the next five years. The intent of this project is to cut all trees at ground level and leave the root balls in place. Trees on the upland may be left in place or removed. Trees and root balls on sloped land near streams will be left in place to minimize erosion.

General Comments

For any permitting inquiries, please contact the appropriate TDEC division directly.

For an understanding of the impact that the clearing of any trees or other natural obstructions may have to rare, threatened, or endangered plant and animal species, please refer to the TDEC's Division of Natural Areas (DNA) Environmental Review webpage.

TDEC appreciates the opportunity to provide comments on the EA. Please note that these comments are not indicative of approval or disapproval of the proposed projects or activities contained within. Please contact me should you have any questions regarding these comments.

Sincerely,

Emily Leonard

Emily Leonard, MPPM |Senior Policy Analyst
TDEC, Office of Policy and Planning
Davy Crockett Building, Fifth Floor
500 James Patterson Pkwy,
Nashville, TN 37243

Emily.leonard@tn.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Tennessee Ecological Services Field Office
446 Neal Street
Cookeville, TN 38501-4027
Phone: (931) 528-6481 Fax: (931) 528-7075

In Reply Refer To: 06/13/2025 13:10:27 UTC
Project code: 2025-0108380
Project Name: Humbolt Airport

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Technical assistance for 'Humbolt Airport'

Dear Chantel Wright:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on June 13, 2025, for 'Humbolt Airport' (here forward, Project). This project has been assigned Project Code 2025-0108380 and all future correspondence should clearly reference this number. **Please carefully review this letter. Your Endangered Species Act (Act) requirements are not complete.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project. **Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key (Dkey), invalidates this letter.**

Determination for the Northern Long-Eared Bat and Tricolored Bat

Based on your IPaC submission and a standing analysis completed by the Service, you determined the proposed Project will have the following effect determinations:

Species	Listing Status	Determination
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	May affect

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination key for the northern long-eared bat and tricolored bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Alligator Snapping Turtle *Macrochelys temminckii* Proposed Threatened
- Monarch Butterfly *Danaus plexippus* Proposed Threatened
- Whorled Sunflower *Helianthus verticillatus* Endangered

You may coordinate with our Office to determine whether the Action may cause prohibited take of the species listed above.

Conclusion

Consultation with the Service is not complete. Further consultation or coordination with the Service is necessary for those species or designated critical habitats with a determination of "May Affect." A "May Affect" determination in this key indicates that the project, as entered, is not consistent with the questions in the key. Not all projects that reach a "May Affect" determination are anticipated to result in adverse impacts to listed species. These projects may result in a "No Effect", "May Affect, Not Likely to Adversely Affect", or "May Affect, Likely to Adversely Affect" determination depending on the details of the project. Please contact our Tennessee Ecological Services Field Office to discuss methods to avoid or minimize potential adverse effects to those species or designated critical habitats.

Federal agencies must consult with U.S. Fish and Wildlife Service under section 7(a)(2) of the Endangered Species Act (ESA) when an action *may affect* a listed species. Tricolored bat is proposed for listing as endangered under the ESA, but not yet listed. For actions that may affect a proposed species, agencies cannot consult, but they can *confer* under the authority of section 7(a)(4) of the ESA. Such conferences can follow the procedures for a consultation and be adopted as such if and when the proposed species is listed. Should the tricolored bat be listed, agencies must review projects that are not yet complete, or projects with ongoing effects within the tricolored bat range that previously received a NE or NLAA determination from the key to confirm that the determination is still accurate. Projects that receive a may affect determination for tricolored bat through the key, should contact the appropriate Ecological Services Field Office if they want to conference on this species.

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

Humbolt Airport

2. Description

The following description was provided for the project 'Humbolt Airport':

> Obstruction removal of all trees at ground level. All stumps and rootballs will remain in place. Trees and root balls on sloped land near streams will be left in place to minimize erosion.

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.79652125,-88.88267854456706,14z

DETERMINATION KEY RESULT

Based on the answers provided, the proposed Action is consistent with a determination of “may affect” for a least one species covered by this determination key.

QUALIFICATION INTERVIEW

1. Does the proposed project include, or is it reasonably certain to cause, intentional take of listed bats or any other listed species?

   Note: Intentional take is defined as take that is the intended result of a project. Intentional take could refer to research, direct species management, surveys, and/or studies that include intentional handling/encountering, harassment, collection, or capturing of any individual of a federally listed threatened, endangered or proposed species?

   No

2. Is the action area wholly within Zone 2 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

3. Does the action area intersect Zone 1 of the year-round active area for northern long-eared bat and/or tricolored bat?

   Automatically answered
   No

4. Does any component of the action involve leasing, construction or operation of wind turbines? Answer 'yes' if the activities considered are conducted with the intention of gathering survey information to inform the leasing, construction, or operation of wind turbines.

   Note: For federal actions, answer ‘yes’ if the construction or operation of wind power facilities is either (1) part of the federal action or (2) would not occur but for a federal agency action (federal permit, funding, etc.).

   No

5. Is the proposed action authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part?

   Yes

6. Is the Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), or Federal Transit Administration (FTA) funding or authorizing the proposed action, in whole or in part?

   No

7. Are you an employee of the federal action agency or have you been officially designated in writing by the agency as its designated non-federal representative for the purposes of Endangered Species Act Section 7 informal consultation per 50 CFR § 402.08?

   Note: This key may be used for federal actions and for non-federal actions to facilitate section 7 consultation and to help determine whether an incidental take permit may be needed, respectively. This question is for information purposes only.

   Yes

8. Is the lead federal action agency the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC)? Is the Environmental Protection Agency (EPA) or Federal Communications Commission (FCC) funding or authorizing the proposed action, in whole or in part?

   Yes

9. [Semantic] Is the action area located within 0.5 miles of a known bat hibernaculum? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

   Automatically answered
   No

10. Does the action area contain any winter roosts or caves (or associated sinkholes, fissures, or other karst features), mines, rocky outcroppings, or tunnels that could provide habitat for hibernating bats?

    No

11. Will the action cause effects to a bridge?

    Note: Covered bridges should be considered as bridges in this question.

    No

12. Will the action result in effects to a culvert or tunnel at any time of year?

    No

13. Are trees present within 1000 feet of the action area?

    Note: If there are trees within the action area that are of a sufficient size to be potential roosts for bats answer "Yes". If unsure, additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    Yes

14. Does the action include the intentional exclusion of bats from a building or structure?

    Note: Exclusion is conducted to deny bats' entry or reentry into a building. To be effective and to avoid harming bats, it should be done according to established standards. If your action includes bat exclusion and you are unsure whether northern long-eared bats or tricolored bats are present, answer "Yes." Answer "No" if there are no signs of bat use in the building/structure. If unsure, contact your local Ecological Services Field Office to help assess whether northern long-eared bats or tricolored bats may be present. Contact a Nuisance Wildlife Control Operator (NWCO) for help in how to exclude bats from a structure safely without causing harm to the bats (to find a NWCO certified in bat standards, search the Internet using the search term "National Wildlife Control Operators Association bats"). Also see the White-Nose Syndrome Response Team's guide for bat control in structures.

    No

15. Does the action involve removal, modification, or maintenance of a human-made structure (barn, house, or other building) **known or suspected to contain roosting bats?**

    No

16. Will the action cause construction of one or more new roads open to the public?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

17. Will the action include or cause any construction or other activity that is reasonably certain to increase average night-time traffic permanently or temporarily on one or more existing roads? **Note:** For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.). .

    No

18. Will the action include or cause any construction or other activity that is reasonably certain to increase the number of travel lanes on an existing thoroughfare?

    For federal actions, answer 'yes' when the construction or operation of these facilities is either (1) part of the federal action or (2) would not occur but for an action taken by a federal agency (federal permit, funding, etc.).

    No

19. Will the proposed Action involve the creation of a new water-borne contaminant source (e.g., leachate pond, pits containing chemicals that are not NSF/ANSI 60 compliant)?

    Note: For information regarding NSF/ANSI 60 please visit https://www.nsf.org/knowledge-library/nsf-ansi-standard-60-drinking-water-treatment-chemicals-health-effects

    No

20. Will the proposed action involve the creation of a new point source discharge from a facility other than a water treatment plant or storm water system?

    No

21. Will the action include drilling or blasting?

    No

22. Will the action involve military training (e.g., smoke operations, obscurant operations, exploding munitions, artillery fire, range use, helicopter or fixed wing aircraft use)?

    No

23. Will the proposed action involve the use of herbicides or other pesticides other than herbicides (e.g., fungicides, insecticides, or rodenticides)?

    No

24. Will the action include or cause activities that are reasonably certain to cause chronic or intense nighttime noise (above current levels of ambient noise in the area) in suitable summer habitat for the northern long-eared bat or tricolored bat during the active season?

    Chronic noise is noise that is continuous or occurs repeatedly again and again for a long time. Sources of chronic or intense noise that could cause adverse effects to bats may include, but are not limited to: road traffic; trains; aircraft; industrial activities; gas compressor stations; loud music; crowds; oil and gas extraction; construction; and mining.

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

25. Does the action include, or is it reasonably certain to cause, the use of permanent or temporary artificial lighting within 1000 feet of suitable northern long-eared bat or tricolored bat roosting habitat?

    Note: Additional information defining suitable summer habitat for the northern long-eared bat and tricolored bat can be found in Appendix A of the USFWS' Range-wide Indiana Bat and Northern long-eared bat Survey Guidelines at: https://www.fws.gov/media/range-wide-indiana-bat-and-northern-long-eared-bat-survey-guidelines.

    No

26. Will the action include tree cutting or other means of knocking down or bringing down trees, tree topping, or tree trimming?

    Yes

27. Will the proposed action occur exclusively in an already established and currently maintained utility right-of-way?

    No

28. Does the action include emergency cutting or trimming of hazard trees in order to remove an imminent threat to human safety or property? See hazard tree note at the bottom of the key for text that will be added to response letters

    Note: A "hazard tree" is a tree that is an immediate threat to lives, public health and safety, or improved property.

    No

29. Does the project intersect with the 0- 9.9% forest density category?

    Automatically answered
    No

30. Does the project intersect with the 10.0- 19.9% forest density category map?

    Automatically answered
    Yes

31. Does the project intersect with the 20.0- 29.9% forest density category map?

    Automatically answered
    Yes

32. Does the project intersect with the 30.0- 100% forest density category map?

    Automatically answered
    No

33. Will the action cause trees to be cut, knocked down, or otherwise brought down across an area greater than 5 acres in total extent?

    Yes

34. Does the action area intersect the tricolored bat species list area?

    Automatically answered
    Yes

35. [Semantic] Is the action area located within 0.5 miles of radius of an entrance/opening to any known tricolored bat hibernacula? Note: The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

36. [Semantic] Is the action area located within 0.25 miles of a culvert that is known to be occupied by northern long-eared or tricolored bats? **Note:** The map queried for this question contains proprietary information and cannot be displayed. If you need additional information, please contact your State wildlife agency.

    Automatically answered
    No

37. Has a presence/probable absence bat survey targeting the tricolored bat and following the Service's Range-wide Indiana Bat and Northern Long-Eared Bat Survey Guidelines been conducted within the project area?

    No

38. Is suitable summer habitat for the tricolored bat present within 1000 feet of project activities?
(If unsure, answer ""Yes."")

    Note: If there are trees within the action area that may provide potential roosts for tricolored bats (e.g., clusters of leaves in live and dead deciduous trees, Spanish moss (Tillandsia usneoides), clusters of dead pine needles of large live pines) answer ""Yes."" For a complete definition of suitable summer habitat for the tricolored bat, please see Appendix A in the Service's Range-wide Indiana Bat and Northern long-eared Bat Survey Guidelines.

    Yes

39. Do you have any documents that you want to include with this submission?

    Yes

    SUBMITTED DOCUMENTS

    - *TWRA_Environmental_Report_Figures.pdf https://ipac.ecosphere.fws.gov/project/JJ7FOPJJJJHB7OHVB5N2IY3VYU/projectDocuments/163314476*

PROJECT QUESTIONNAIRE

Enter the extent of the action area (in acres) from which trees will be removed - round up to the nearest tenth of an acre. For this question, include the entire area where tree removal will take place, even if some live or dead trees will be left standing.

35

IPAC USER CONTACT INFORMATION

Agency: Federal Aviation Administration
Name: Chantel Wright
Address: 520 West Summit Hill Drive, Suite 1202
City: Knoxville
State: TN
Zip: 37902
Email chantel.wright@bargedesign.com
Phone: 8659344154

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Federal Aviation Administration

Outlook

FWS 2025-0108380. Humbolt Airport Approach Obstruction Removal Project

From Sykes, Robbie <robbie_sykes@fws.gov>
Date Wed 7/30/2025 4:28 PM
To Chantel Wright <Chantel.Wright@bargedesign.com>
Cc Kris Thoemke <Kris.Thoemke@bargedesign.com>; Tennessee ES, FWS <tennesseeES@fws.gov>

Chantel,

Thank you for your correspondence informing the U.S. Fish and Wildlife Service of the Humbolt Airport's proposed approach obstruction removal project. We understand the project involves the clearing of trees which are penetrating, or may penetrate, one of the Airport's surface approaches within the next five years. The justification for the project is the improvement of aviation safety through the removal of aeronautical obstructions (trees). You have requested our comments regarding the potential for environmental impacts, including those to threatened and endangered species, and we are happy to provide you with technical assistance on your project.

Based on the information you provided and other information available to us, we are not reasonably certain your project may affect any federally listed species. Given both the small size of the project, lack of habitat, and lack of proximity of the project site to known records of federally listed species, we are not aware of any threatened or endangered species that would reasonably be expected to occupy the anticipated area of impact. We have no concerns related to federally listed species or their habitats. The project proponent should re-coordinate with us if (1) new information reveals impacts of the proposed action that may affect listed species or critical habitat in a manner not previously considered, (2) the proposed action is subsequently modified to include activities which were not considered during this consultation, or (3) new species are listed or critical habitat designated that might be affected by the proposed action.

Thank you for coordinating with us on the proposed action. If you have any questions, please contact me at *robbie_sykes@fws.gov*, reference activity 2025-0108380.

Sincerely,

Robbie Sykes
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
446 Neal Street
Cookeville, TN 38501
(tele. 931/214-3215)

From: Chantel.Wright@bargedesign.com <Chantel.Wright@bargedesign.com>
Sent: Friday, July 25, 2025 10:25 AM

To: Sykes, Robbie <robbie_sykes@fws.gov>
Cc: Kris.Thoemke@bargedesign.com <Kris.Thoemke@bargedesign.com>
Subject: [EXTERNAL] FW: Humbolt Airport USFWS Coordination Request

Hi Robbie,

Have you had a chance to review our project details and species list for the Humbolt Airport species coordination? We will need to provide complete coordination to FAA. Please let me know if you need anything else or have any questions for us.

Thank you!

Chantel Wright PWS, TN-QHP

Biologist

D (865) 934-4154
M (989) 289-0526
O (865) 637-2810

520 West Summit Hill Drive, Suite 1202
Knoxville, Tennessee 37902
chantel.wright@bargedesign.com

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From: Chantel Wright
Sent: Friday, June 13, 2025 9:27 AM
To: Sykes, Robbie <robbie_sykes@fws.gov>
Subject: Humbolt Airport USFWS Coordination Request

Good morning Robbie,

We are requesting further coordination with the USFWS for the Humbolt Airport project, funded primarily by the FAA, which requires the removal of trees which are penetrating or may penetrate one of the Airport's surface approaches within the next five years. I have attached the Technical Assistance document and IPaC species list generated by IPaC, as well as project area figures. Please let me know if you need anything else for your review or have any additional questions.

Thank you!

Chantel Wright PWS, TN-QHP

Biologist

D (865) 934-4154
M (989) 289-0526
O (865) 637-2810

520 West Summit Hill Drive, Suite 1202
Knoxville, Tennessee 37902
chantel.wright@bargedesign.com

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TENNESSEE WILDLIFE RESOURCES AGENCY
WWW.TNWILDLIFE.ORG
(731) 423-5725

STATE OF TENNESSEE
TWRA REGION I OFFICE
200 LOWELL THOMAS DRIVE
JACKSON, TN 38301

July 15, 2025

Chantel Wright
520 West Summit Hill Drive, Suite 1202
Knoxville, TN 37902

Humbolt Airport, Gibson County, Tennessee

Chantel,

The Tennessee Wildlife Resources Agency (TWRA) has reviewed the information provided for the proposed project in Gibson County, Tennessee. Obstruction removal of all trees at ground level. All stumps and root balls will remain in place. Trees and root balls on sloped land near streams will be left in place to minimize erosion.

In reviewing this project as well as our species database a 1-mile radius was considered beginning at coordinates -88.880997, 35.796485 which were provided in the information received. Please be advised, there have been no species of concern under the authority of the TWRA recorded within this radius.

TWRA does not anticipate this project to cause adverse impacts to species of concern, currently. TWRA does require Best Management Practices (BMPs) be implemented throughout the project site as well as during ALL activities associated with this project. TWRA also requires all efforts be made to minimize/eliminate adverse impacts to ALL nearby and downstream wetlands, tributaries, and conveyances. Impacts include the introduction of silt, wastes, and/or other debris. These may occur either by direct impact, natural precipitation runoff events or other possible activities from this project site.

TWRA recommends the United States Fish and Wildlife Service (USFWS), in the Cookeville TN office, be made aware of this project should there be any concerns of possible adverse impacts to Federally Listed species. TWRA would agree with any comments or concerns that USFWS may have.

Thank you for the opportunity to review and comment about this project. Please contact me if I can be of further assistance.

Allen Pyburn

Region 1 Aquatic Habitat Manager/DSO/DCB Chairman

Tennessee Wildlife Resources Agency

200 Lowell Thomas Drive

Jackson, TN 38301
C: 731-298-6144

www.tnwildlife.org

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