

DRAFT ENVIRONMENTAL ASSESSMENT

Construction of New Laboratory Facilities for the USDA Agricultural Research Service

Raleigh, North Carolina



February 2022

Prepared by
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Wilmington District
for
United States Department of Agriculture
Agricultural Research Service
Southeastern Area Office



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- Appendix B: USDA Farmland Protection Policy Act
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- Appendix D: Environmental Justice Report (EPA)

List of Acronyms

Agricultural Research Services (ARS)

North Carolina State University (NCSU)

Best Management Practice (BMP)

Code of Federal Regulations (CFR)

Council on Environmental Quality (CEQ)

Engineer Regulation (ER)

Environmental Assessment (EA)

Environmental Impact Statement (EIS)

Environmental Protection Agency (EPA)

Executive Order (EO)

Finding of No Significant Impact (FONSI)

Government Owned Vehicles (GOV)

National Environmental Policy Act (NEPA)

National Register of Historic Places (NRHP)

National Soil Dynamics Laboratory (NSDL)

Privately Owned Vehicles (POV)

Threatened and Endangered (T&E)

U.S. Army Corps of Engineers (USACE)

U.S. Department of Agriculture (USDA)

Volatile Organic Compounds (VOC's)

1. INTRODUCTION

This Environmental Assessment (EA) presents and discusses impacts that would potentially result from the construction of a new facility by the U.S. Department of Agriculture (USDA). The proposed Plant Improvement Facility (PIF) will provide the requirements to operate the collaborative plant science efforts of the USDA Agricultural Research Facility (ARS) and North Carolina State University (NCSU). North Carolina State University is a state owned public-land grant university located Raleigh, North Carolina.

1.1 Location

The proposed action would occur on an 11-acre open field site at the northeast corner of the intersection of Lake Wheeler Road and Inwood Road (35.73158°, -78.68266°) in Raleigh, Wake County, North Carolina. The proposed project location is shown in Figure 1 below.

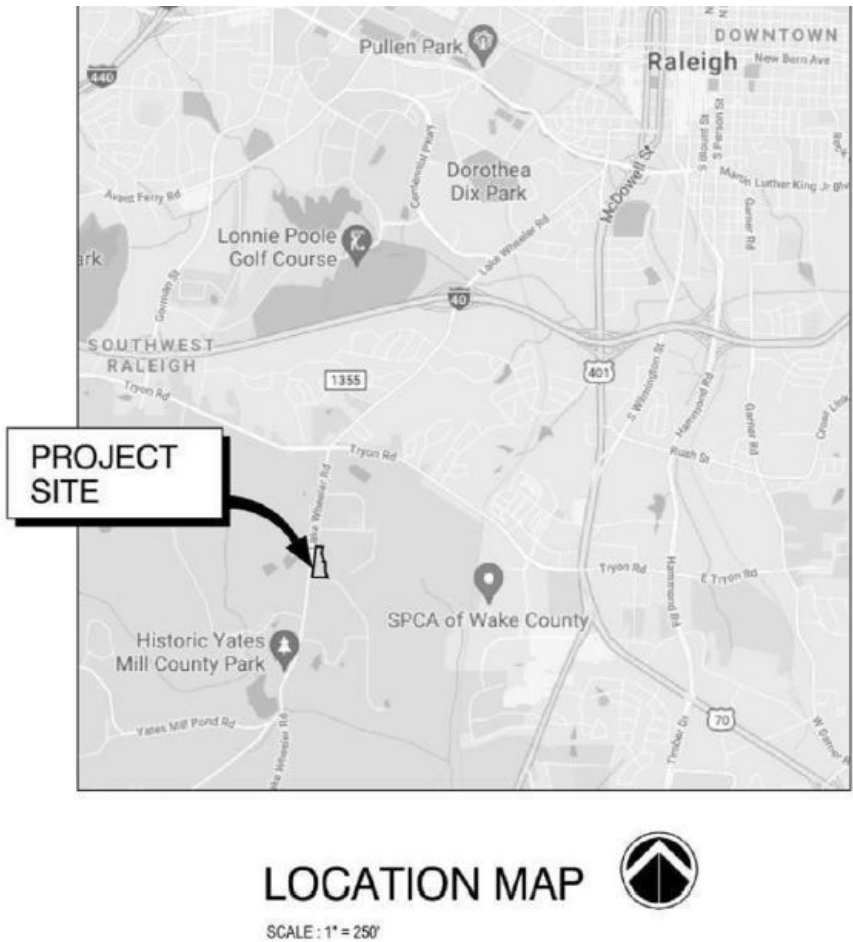


Figure 1: The location of the proposed site for the construction of a USDA Agricultural Research facility within Wake County, NC

1.2 Purpose and Need

The USDA plant breeding program develops crops and germplasm lines that increase yield, improve nutritional and flavor quality, tolerate environmental stresses, and resist pests. The USDA currently has four Research Units plus a Location Support Office (LSO) located in Raleigh, NC that support collaborative research between USDA and NCSU. The Units and LSO are physically separated from each other, and three of the Units are physically separated within each Unit. A large portion of the research is located at three off-campus locations, ranging from about 5-to-7 miles away from the main campus (Reedy Creek, MidPines Rd, and Inwood Rd). There's a need to improve collaboration, to update technology and facilities, and to increase efficiencies and support space. The purpose of this project is to consolidate the existing field-related aspects of USDA's plant breeding (including seed handling, processing, and grain quality), pathology, and physiology research; and to house a national laboratory for the research and production of doubled-haploid plants in a location that meets the USDA's needs.

1.3 Authority

Funding and authorization for the construction of the NCSU USDA ARS site was included in 2019 Consolidated Appropriations Act. "The conference agreement provides \$381,200,000 for ARS Buildings and Facilities for the next highest priorities identified on the 2012 USDA ARS Capital Investment Strategy and 2015 ARS Co-located Cooperator Facility Report."

1.4 Proposed Action

1.4.1 Land Lease

The NCSU proposes to lease all the lands, non-removable property, buildings, and grounds of the project site to USDA.

1.4.2 Construction of New Facilities

The Plant Improvement Facility will be comprised of interior spaces organized according to their respective crop in building wings that will be connected by a central outdoor breezeway. The south portion of the facility will be anchored by a greenhouse/headhouse. The northern portion of the facility will include the water collection tank and associated pump house and the storage facility. The proposed action is described in detail in Section 2.2.

1.5 Scope

The National Environmental Policy Act (NEPA) and Title 40 of the Code of Federal Regulations (CFR), Parts 1500-1508 (40 CFR 1500-1508), require Federal agencies to consider the potential environmental consequences of proposed actions and alternatives. 7 CFR § 520.3 further states USDA ARS will comply with the NEPA. An Environmental Assessment (EA) is prepared for an action that is not clearly categorically excluded, but does not clearly require an Environmental Impact Statement (EIS) [40 CFR §1501.3 (a) and (b)]. Based on the EA, the federal agency either prepares an EIS, if one appears warranted, or issues a "Finding of No Significant Impact" (FONSI), which satisfies the NEPA requirement. This EA is prepared according to the Engineer Regulation (ER) 200-2-2, Procedures for Implementing NEPA, and the Council for Environmental Quality (CEQ) regulations (40 CFR § 1508.27) for Implementing the Procedural Provisions of NEPA (40 CFR § 1500-1508). This EA is being prepared in accordance with the 2022 Phase I CEQ NEPA revisions.

This EA, written by the U.S. Army Corps of Engineers (USACE), Wilmington District, for the USDA, presents the potential impacts associated with construction of the Plant Improvement Facility. Executive Order (EO) 11514, Protection and Enhancement of Environmental Quality (amended by EO 11991), provides policy directing the Federal government to take leadership in protecting and enhancing the environment. Per CEQ guidance, the EA focuses on resource areas where there are potential impacts.

1.6 Public Involvement

NEPA requires that the public be involved in the decision-making process on Federal actions. Consideration of the views and information of all interested parties promotes open communication and enables better decision-making. All agencies, organizations, and members of the public having a potential interest in the proposed action are urged to participate in the decision-making process.

2. ALTERNATIVES

2.1 No Action Alternative

Under the No Action alternative, USDA would not construct a new PIF as a part of this action. The USDA would have to continue operating the PIF in separate and aging locations. The proposed project site will continue to function as an agricultural field; no building will be constructed on the site.

2.2 Proposed Action

The proposed action will provide a new facility to operate the collaborative plant science efforts of the USDA Agricultural Research Service and North Carolina State University. The PIF facility will combine existing programs that are currently located in aging and/or separate facilities in several other locations and will bring together employees that are currently spread out by several miles into one common facility, providing better opportunity for collaboration and increased efficiencies. The PIF will also provide updated technology, increased support space, and room for growth.

The proposed action consists of the construction of a new USDA ARS PIF on an 11-acre open field site. A temporary staging area and access road would be just north of the project site in a previously disturbed area of approximately 1.7 acres. The project site is adjacent to existing USDA research areas for several different programs. The proposed development will include multiple buildings with proposed access coming off Inwood Road (Figure 2). The process and research buildings will total 51,679 Gross Square Feet (GSF) and the equipment storage and facility support building will total 59,082 GSF. Permanent site access from Inwood Road will require installation of a 15-inch RCP pipe, 54 feet long to connect the existing roadside ditches. The total acreage of impact for this permanent access road is about 3000 square feet (.07 acres). The primary driving and parking areas will be gravel, except where paving is needed for accessible parking and access. The gravel parking area will consist of a total of 27 spaces. Construction of the proposed facility will meet the current and future research needs of USDA ARS at NCSU in Raleigh, North Carolina. This action will include the

cut, fill, and grading of soils, the pouring of concrete pads, and the construction of the buildings. There is no domestic water or sewer infrastructure on site. A network of well, storage tank, rainwater harvesting, and retention ponds will be used to support domestic, systems, and fire protection water demand.

The site plan (Figure 2) includes temporary and permanent stormwater features, including a dry pond and a permanent level spreader filter strip (LS-FS). A level spreader-filter strip consists of the level spreader, which is a poured concrete lip and a filter strip that is graded and grassed. The LS does not remove pollutants by itself; however, it is an indispensable device needed to bring about pollutant removal in the FS. The vegetation and soils in the FS remove pollutants primarily via filtration and infiltration. The LS-FS provides Secondary Stormwater Control Management. The LS-FS would have a forebay in front of the level spreader, which is an excavated, bowl-shaped feature that slows the stormwater and sediment and debris to settle out. The total area for the LS-FS and forebay is about 0.14 acre.



Figure 2: The proposed construction consisting of a main office building, a headhouse/greenhouse, parking and access.

Construction of the proposed project will require two temporary site access roads, described as follows: 1) The Inwood Road temporary access will consist of a gravel surface and 12-inch RCP pipe, 155 feet long, to connect the proposed sediment basin and east roadside ditch. This access road would be converted to a permanent driveway from Inwood Road following construction; and 2) Temporary construction site access from Chi Road would consist of a gravel surface (no culvert required) (Figure 3). Geo fabric would be installed on the ground surface following grading, so the gravel may be easily removed to restore this access road to existing condition (agricultural field) following construction. The access road will impact two small areas that serve as NCSU tree test plots. The total acreage of tree impacts for this temporary access road, including 10 feet of tree clearing on either side of the access road is approximately 17,600 square feet. The larger of the test plots will have approximately 12,600 square feet of impacts and the smaller tree area will have approximately 5,000 square feet of impacts.

In addition to the temporary access roads, a temporary construction staging area is proposed within the 11-acre project site, north of the septic field (Figure 3). The proposed staging area would be in a previously disturbed area (agricultural field); approximately 1 acre within the area shown on Figure 3 would be disturbed. Following construction, the disturbed area would be restored to pasture/hay production using an endophyte (fungal) free fescue.

All permanent impacts would occur within the 11-acre project site. The temporary access roads and staging area would be outside the 11-acre project site and would temporarily affect approximately 1.7 acres.

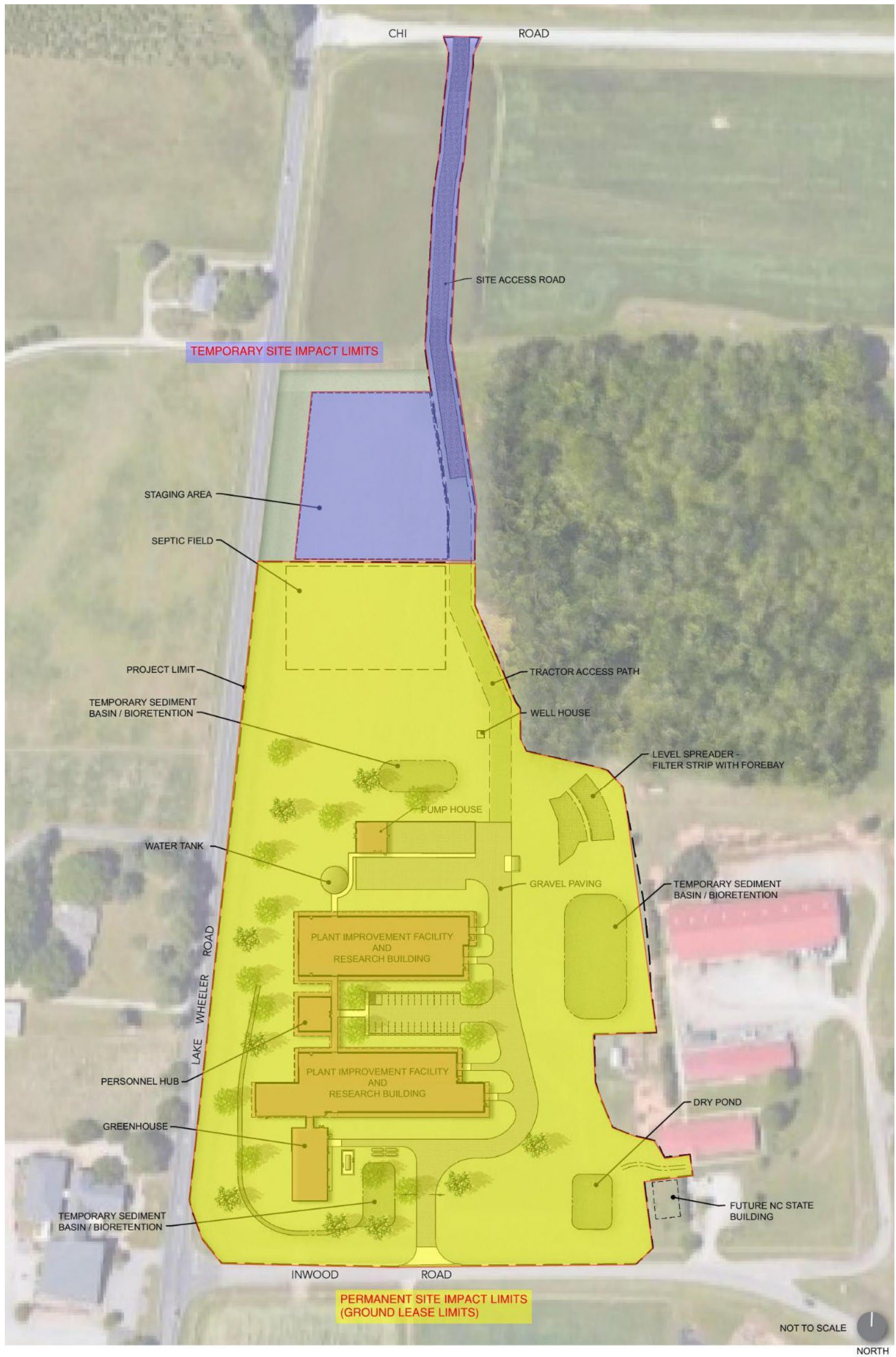


Figure 3: The proposed project limits of disturbance, including the temporary staging area and access road north of the project site.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Physical Environment

3.1.1 Climate

Affected Environment: The project is in a Köppen Cfa climate (humid-subtropical). Wake County experiences warm summers with mild winters. On average there are 156 days of rain a year, totaling on average 31.7 inches of rain a year. The hottest summer month (July) has an average high of 89.4° Fahrenheit (F) and the coldest month (January) has an average low of 32.2° F.

No Action: No direct or indirect changes to climate would be expected under the no action alternative.

Proposed Action:

Direct Impacts: The proposed action would have a negligible effect to the local and global climate. Air temperatures around the newly constructed facility are likely to increase due to the conversion of an agricultural field to parking lots, roofs, and roads. However, the use of gravel paving for parking areas instead of asphalt will reduce impacts to surface temperatures. The higher temperatures would dissipate quickly to adjacent areas, and the size of the proposed complex would not constitute a major “heat island”. Small amounts of greenhouse gases will be released by construction equipment at the site; however these emissions will be localized and temporary in nature and not significantly contribute to climate change.

Indirect Impacts: No indirect impacts are anticipated.

3.1.2 Geology and Soils

Affected Environment: The project is located within the North Carolina Piedmont region (Figure 3) which includes gently rolling hills and low ridges. The region is composed mainly of Proterozoic and Paleozoic metamorphic and intrusive igneous rocks. The rocks are mainly composed of contain chlorite, epidote, and other greenschist-facies minerals.

The site contains Appling sandy loam (2 to 6 percent slopes) and Cecil sandy loam (2 to 6 and 6 to 10 percent slopes) soils. The Appling and Cecil Series are listed as Prime farmland soils. Prime farmland, as defined by the USDA, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. A soils map of the site where construction will occur is included in Appendix A.

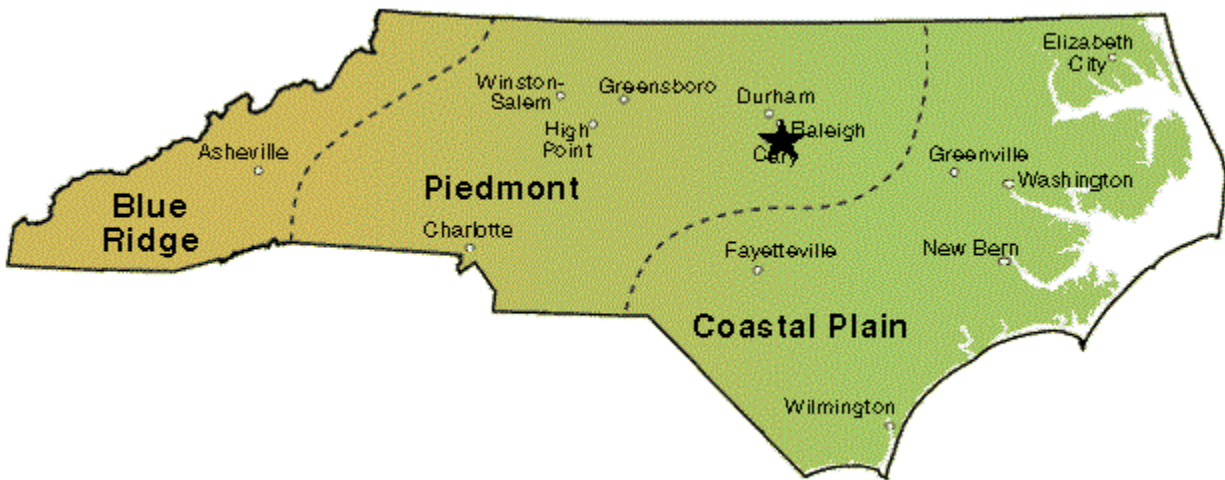


Figure 4: The location of the proposed project in reference to North Carolina's geological regions. Note that Raleigh is just North of the fall line between the Piedmont Upland and the Coastal Plain. (USGS, n.d.)

No Action: No impacts would occur to geology or soils under the No Action because no changes to existing geology or soils would occur.

Proposed Action:

Direct Impacts: The proposed action would involve the cut/ fill and grading of existing topography to allow for the construction of the new laboratory facilities. Most of the soils at the site have been previously graded and disturbed. Fill soils are likely to come from the local area. Impacts to the major geography and soils of the area would remain unchanged.

There would be minor impacts to the soils from the construction and grade work on the 11-acre site, as well as minor impacts to approximately 1.7 acres associated with grading required for the temporary access road that would extend north of the site to Chi Road (Figure 3). During grading and construction, compaction of soils may occur. Soil compaction can reduce water infiltration capacity, reduced biomass and increased heat retention (Stoessel, Sonderegger, Bayer, & Hellweg, 2018). While the compaction

of the soils may negatively affect water infiltration, stormwater infrastructure will be used to mitigate the effects of soil compaction and increased impervious surfaces to local water quality and minimize erosion. A stormwater and erosion control permit package will be submitted to the City of Raleigh for a Site Permit Review. This combined submittal and review process is done to obtain all site approvals. The City of Raleigh reviews plans for compliance related to stormwater, public utilities, transportation, fire, urban forestry, planning and zoning regulations. Through this process the project will get stormwater discharge approval for coverage under the North Carolina Construction General Permit NCG010000.

The National Resources Conservation Service has been contacted regarding the construction on Prime Farmlands and all necessary coordination has been completed to ensure compliance with the Farmland Protection Policy Act by letter from the USDA dated September 15, 2022 (Appendix B).

Indirect Impacts: No indirect impacts are anticipated.

3.1.3 Water Quality

Affected Environment: The project will occur entirely within the Swift Creek watershed (Figure 5). The site eventually drains into an unnamed tributary to Swift Creek, which flows into Lake Wheeler, then to Lake Benson and ultimately to the Neuse River. Portions of the watershed have been listed as impaired by the North Carolina Department of Environmental Quality. No surface water or wetland is located within the project area.

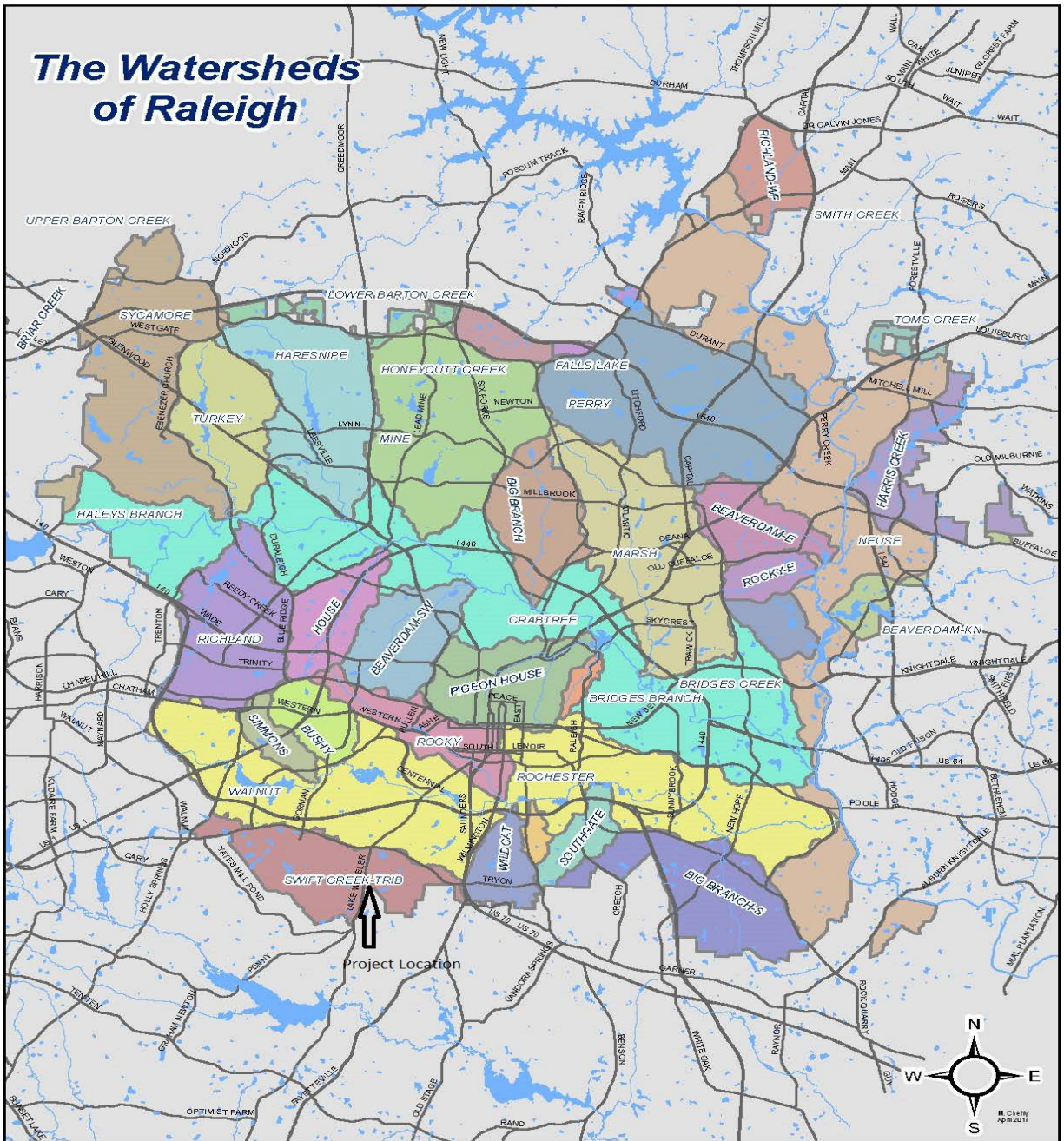


Figure 5: The watersheds of Raleigh, NC.

No Action: No impacts would occur to water quality under the No Action because no changes to existing water resources would occur.

Proposed Action:

Direct Impacts: The proposed action would increase the impervious surfaces by approximately 2.8 acres. This may cause small minor changes to water quality in surrounding water bodies. Temporary impacts from construction, cut/fill, and grading are thought to be minimal as North Carolina Stormwater and Construction Best Management Practices (BMPs) will be adhered to as appropriate. Any construction disturbance of more than one acre will require the obtainment of a National Pollutant Discharge Elimination System (NPDES) permit, pursuant to Section 402 of the Clean Water Act. Several temporary and permanent stormwater features, including a retention pond and level spreader-filter strip, are proposed to be constructed at the site (Figure 2). Due to the implementation of erosion control measures and compliance with North Carolina Construction General Permit NCG010000 for stormwater discharges, no effects to water quality are expected.

Indirect Impacts: No indirect impacts are anticipated.

3.1.4 Groundwater

Affected Environment:

No Action: No impacts would occur to groundwater under the No Action because no changes to existing groundwater would occur.

Proposed Action:

Direct Impacts: Impacts to groundwater will be minimized by utilizing BMPs during construction. Groundwater impacts will also be minimized by designing appropriate stormwater retention, infiltration and sewage infrastructure.

Indirect Impacts: No indirect impacts are anticipated.

3.1.5 Air Quality

Wake County, North Carolina is not within an Environmental Protection Agency (EPA) nonattainment area (Environmental Protection Agency, 2022).

Greenhouse gases absorb infrared radiation, thereby trapping heat and making the planet warmer. The most important greenhouse gases directly emitted by humans include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and several other fluorine-containing halogenated substances. Although CO₂, CH₄, and N₂O occur naturally in the atmosphere, human activities have changed their atmospheric

concentrations. From the pre-industrial era (i.e., ending about 1750) to 2017, concentrations of these greenhouse gases have increased globally by 45, 164, and 22 percent, respectively.

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other greenhouse gases, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the earth.

No Action: No impacts would occur to air quality under the No Action because no changes to existing pollution loading would occur.

Proposed Action:

Direct Impacts: The local area will receive a minor increased amount of air pollution due to the cars for the employees that will work at the new facility. However, the facility is replacing existing facilities located within the same area. Some impacts from employee commutes would be offset by no longer utilizing the former locations. There will also be temporary increases in air pollution during the construction of the project. The impacts of this pollution will not cause Wake County or Raleigh to exceed any state or national air quality standards or become an EPA nonattainment area. No changes to air quality or climate change are anticipated.

Indirect Impacts: No indirect impacts are anticipated.

3.1.6 Floodplain

The project site lies adjacent to a small creek with natural relief and topography; no construction will occur in the floodplain.

No Action: No impacts would occur to the floodplain under the No Action because no changes to existing floodplain would not occur.

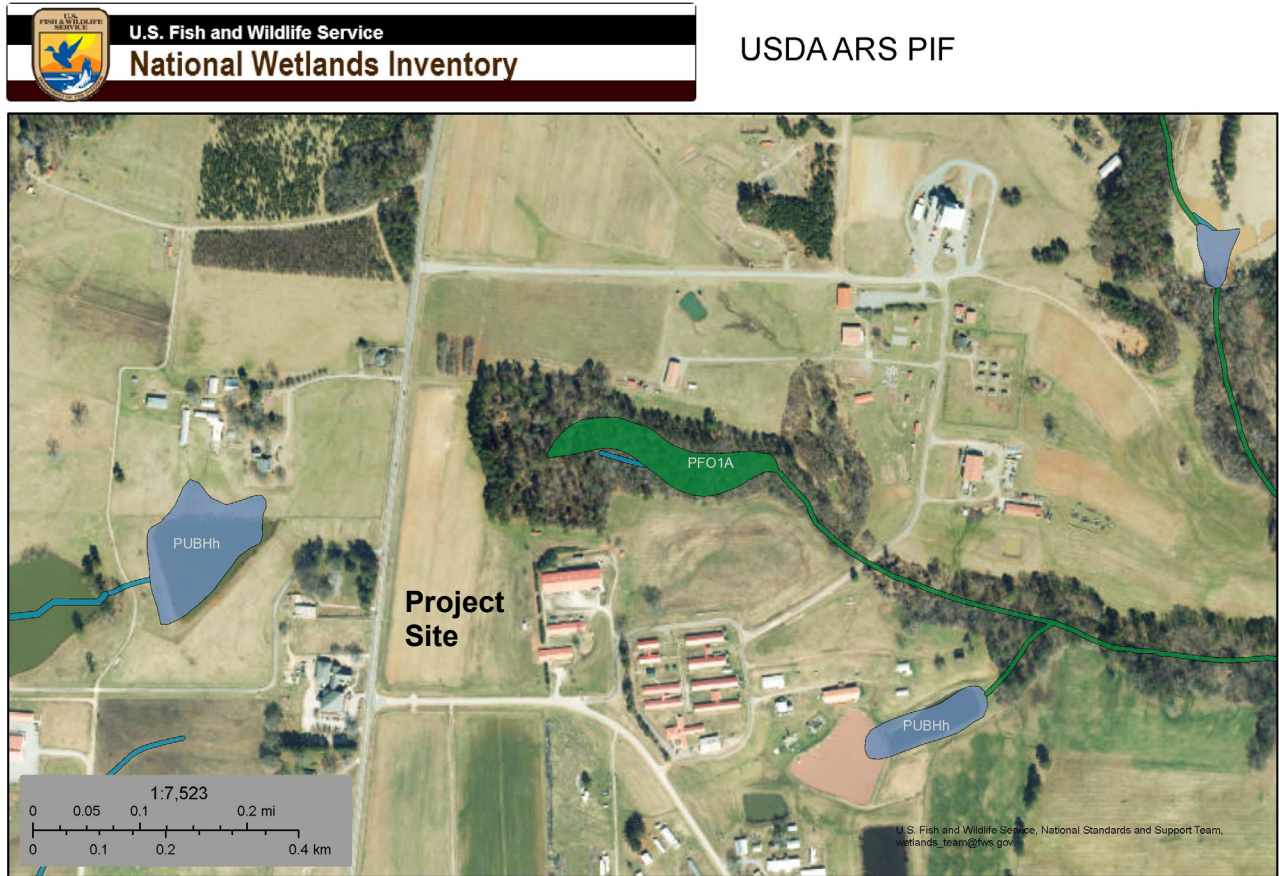
Proposed Action:

Direct Impacts: The proposed construction will not occur within a floodplain; given this, the requirements of EO 11988 (Floodplain Management) do not apply to this project.

Indirect Impacts: No indirect impacts are anticipated.


3.1.7 Wetlands

A site visit was conducted to survey the site for wetlands. Wetlands are not present in the project area. A National Wetlands Inventory (NWI) map is shown in Figure 6.



May 21, 2022

Wetlands

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

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

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

Figure 6: The NWI wetland map associated with the proposed project site.

No Action: No impacts would occur to wetlands under the No Action because no changes to the existing wetlands would occur.

Proposed Action:

Direct Impacts: There are no wetlands within the project area and no runoff into any adjacent wetlands are anticipated. The proposed construction is not expected to impact wetlands.

Indirect Impacts: No indirect impacts are anticipated.

3.2 Biological Resources

3.2.1 Fish and Fishery Resources

There are no commercial or recreational fisheries in the vicinity of the proposed project.

No Action: No impacts would occur to fish or fishery resources under the No Action because no changes to existing fish habitat would occur.

Proposed Action:

Direct Impacts: No impacts would occur to fish or fishery resources under the Proposed Action because no changes to existing fish habitat would occur.

Indirect Impacts: No indirect impacts are anticipated.

3.2.2 Wildlife Resources and Habitat

Affected Environment: The land area in the vicinity of the project area contains mostly agricultural fields. There is a small, forested drainage area adjacent to the project area that contains a bottomland hardwood habitat with an ephemeral stream. The site would be expected to contain Eastern cottontail rabbit (*Sylvilagus floridanus*), racoons (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), and white - tailed deer (*Odocoileus virginianus*), and Eastern wild turkey (*Meleagris gallopavo silvestris*). No clearing is proposed within the bottomland hardwood area.

No Action: No impacts would occur to wildlife resources under the No Action because no changes to existing wildlife habitat would occur.

Proposed Action:

Direct Impacts: A relatively minor amount of wildlife habitat will be lost due to the construction of the PIF. This will consist of the clearing and grading an 11-acre project area that is currently an agricultural field. The project would result in a permanent loss of use of this upland area. It is likely small urban adapted species that live in the area of impact would most likely relocate onto undeveloped adjacent areas. Additionally, temporary impacts to approximately 1.7 acres (including approximately 17,600 square feet of tree impacts) will result from clearing and grading to construct the access roads and to prepare an approximate 1-acre area within the identified staging area. The Chi Road access and the staging area, which are previously disturbed, will be restored to existing condition following construction. The temporary access at Inwood Road will be converted to a permanent driveway.

Indirect Impacts: No indirect impacts are anticipated.

3.2.3 Endangered, Threatened, or Protected Species

Under the Endangered Species Act of 1973, any federally funded project has the responsibility to address impacts to federally listed and proposed species. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Trust Resources website was used to identify endangered and threatened species (as well as Federal Species of Concern and candidate species) that might be present within the project area based on species information, maps of species distributions, species occurrences, and geographic search areas (<https://ecos.fws.gov/ipac/>). A list of species and habitats of concern was obtained from the Information for Planning and Conservation website (USFWS IPaC, 2023) (Appendix C). Nine threatened or endangered species are thought to occur within the proposed project area in Wake County, North Carolina (Table 1) There is no listed critical habitat within the proposed project area.

Table 1: Effects of the No Action Alternative on Threatened and Endangered Species in the area.

Common Name	Scientific Name	Status	Determination
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered	No Effect
Red-cockaded Woodpecker	<i>Picoides borealis</i>	Endangered	No Effect
Neuse River Waterdog	<i>Necturus lewisi</i>	Threatened	No Effect
Carolina Madtom	<i>Noturus furiosus</i>	Endangered	No Effect
Atlantic Pigtoe	<i>Fusconaia masoni</i>	Threatened	No Effect
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>	Endangered	No Effect
Yellow Lance	<i>Elliptio lanceolata</i>	Threatened	No Effect
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	No Effect
Michaux's Sumac	<i>Rhus michauxii</i>	Endangered	No Effect

No Action: No impacts would occur to threatened or endangered species under the No Action because no changes to existing wildlife habitat would occur.

Proposed Action:

Direct Impacts: No effect will occur to the threatened and endangered (T&E) species as a result of the proposed action (Table 1). This project site is already disturbed and regularly tilled and planted with row crops such as corn and soybeans, therefore no potential habitat for T&E species is thought to occur at this site. Likewise, the temporary access roads and staging area are not thought to provide habitat for T&E species, so these features will have no effect on T&E species.

During the winter, tricolored bats are often found in caves and abandoned mines, although in the southern United States, where caves are sparse, tricolored bats are often found roosting in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are found in forested habitats where they roost in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be found in Spanish moss, pine trees, and occasionally human structures. The tricolored bat strongly prefers a dense growth of trees and underbrush covering a large tract for roosting. The tricolored bat is not known to be inhabiting the test plots and the smaller tracts make it unlikely to be found there. All forest clearing activities will be conducted in a manner that avoids cutting or destroying known, occupied maternity roost trees during the pup season (June 1-July 31). The red-cockaded woodpecker is known to inhabit open pine woodlands. No habitat is known to exist in the vicinity of the project area. The monarch butterfly is known to inhabit open grasslands and rely on milkweed as a host to lay their eggs. Intensive agricultural fields similar to the current project conditions would not support the butterfly. The disturbed conditions at the project area would also not be expected to support the growth of Michaux's Sumac.

The project area doesn't include the medium to large streams where the Dwarf Wedgemussel, Neuse River Waterdog or Carolina Madtom would be expected to occur; therefore, the proposed project would have no effect on the Dwarf Wedgemussel, Carolina Madtom or the Neuse River Waterdog as the work is not expected to be conducted in a manner that would impact these species. Further, the proposed activities are not expected to negatively impact any aquatic sites.

No changes in the flow of or runoff into any adjacent streams is expected as a course of the proposed federal action. Construction at the project site should not negatively affect the success of any T&E species. A USACE biologist surveyed the site on 28 June 2021 and did not identify potential habitat for any listed species.

Indirect Impacts: No indirect impacts are anticipated.

Table 2: Effects of the Proposed Action on Threatened and Endangered Species in the area.

Common Name	Scientific Name	Status	Determination
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered	No Effect
Red-cockaded Woodpecker	<i>Picooides borealis</i>	Endangered	No Effect
Neuse River Waterdog	<i>Necturus lewisi</i>	Threatened	No Effect
Carolina Madtom	<i>Noturus furiosus</i>	Endangered	No Effect
Atlantic Pigtoe	<i>Fusconaia masoni</i>	Threatened	No Effect
Dwarf Wedgemussel	<i>Alasmidonta heterodon</i>	Endangered	No Effect
Yellow Lance	<i>Elliptio lanceolata</i>	Threatened	No Effect
Monarch Butterfly	<i>Danaus plexippus</i>	Candidate	No Effect
Michaux's Sumac	<i>Rhus michauxii</i>	Endangered	No Effect

3.3 Socioeconomics and Cultural Resources

3.3.1 Socioeconomic Conditions

According to the 2021 Census, there were 1,150,204 people living in Wake County, North Carolina. The population was 67.9% White, 21.0% Black, 0.8% Native American, 7.7% Asian, 0.1% Pacific Islander, 10.4% Hispanic or Latino, and 2.6% from two or more races. The median household income was \$83,567; 7.4% of the population lives below the poverty line (United States Census Bureau, 2021).

No Action: No changes in socioeconomics in the area would occur under the no action.

Proposed Action:

Direct Impacts: A temporary increase in jobs in association with the construction may occur, however the sourcing and effect of the jobs are unknown. The facility is replacing an existing facility located within the same area, so it will not result in additional jobs.

Indirect Impacts: No indirect impacts are anticipated.

3.3.2 Land Use

Land use within the project area is for agricultural production of row crops such as soybeans and corn. Land use in the vicinity of the project site includes residential

development, agriculture, university land, and research facilities.

No Action: No changes in land use to the area would occur under the no action.

Proposed Action:

Direct Impacts: The project area will be converted from an agricultural field to a research facility with a driveway, parking area, and storage buildings.

Indirect Impacts: No indirect impacts are anticipated.

3.3.3 Historic and Archaeological Resources

The proposed project site, including the temporary features, are located in an open field at the northeast corner of the intersection of Lake Wheeler Road and Inwood Road (35.73158°, -78.68266°) in Raleigh, Wake County, North Carolina (Figure 1).

Referencing available historic aerial imagery, the site has been extensively disturbed and used for agriculture and / or agricultural education over at least the past 30 years (Figure 7).



Figure 7: Historic aerial imagery of the project site and surrounding area, February 1993 (image courtesy of Google Earth).

No action: Continued agricultural use of the proposed project site would have no effect on cultural resources.

Proposed Action:

Direct Impacts: The proposed construction of a new USDA ARS PIF on an 11-acre open field site will have no effect on cultural resources and would be in compliance with Section 106 of the National Historic Preservation Act. The proposed site is heavily disturbed and has been used as an agricultural field for at least the past 30 years. The building massing would reflect the agrarian context of Lake Wheeler Road's research, university, and private residential buildings. Construction access would be via existing, established roadways and the proposed temporary access from Chi Road and the staging area would be in previously disturbed areas. In the event cultural resources

including, but not limited to, cultural artifacts, relics, remains, or objects of antiquity are discovered during project construction, the North Carolina State Historic Preservation Office (SHPO) shall be immediately notified and the resource(s) in question shall be protected from further disturbance until appropriate resolution is established.

Indirect Impacts: No indirect impacts are anticipated.

3.3.4 Water Supply

There is no domestic water available from the City of Raleigh on site. Facilities within the immediate area require on-site well water/storage tank systems.

No Action: No impacts would occur to water under the No Action because no changes to existing water usage would occur.

Proposed Action:

Direct Impacts: The site water shall be supplied from a well water system. Pending further flow test results, a new 6" well approximately 600 feet deep with associated pump and pump house will be provided to supply the site. The maximum flow capacity of wells in this area is reported to be 50 gallons per minute. A 4" line from the well will supply water to a 240,000-gallon storage tank that will supply the fire protection system, evaporated water cooling and domestic water systems. If necessary, water treatment will be incorporated into the evaporated water cooling and domestic system. No negative impacts would occur to the local area's water supply under the Proposed Action because no large changes to existing water usage would occur.

Indirect Impacts: No indirect impacts are anticipated.

3.3.5 Traffic

Traffic around the project site mainly travels along Lake Wheeler Road and Inwood Road. The City of Raleigh lies along Interstate 40 between Wilmington, NC and Greensboro, NC where traffic is moderate. The project site is located approximately 4 miles outside downtown Raleigh and within a mile of an intensively developed residential area. Traffic in Raleigh can be heavy at times, mainly when workers are commuting to and from work. However, the site is in a less populated area that experiences more moderate traffic.

No Action: No impacts would occur to traffic under the No Action because no changes to existing traffic volume or patterns would occur.

Proposed Action:

Direct Impacts: Minor alterations to the traffic patterns around the project site may occur but should have no noticeable effects based on the number of employees. The facility will support 15-25 permanent occupants. No changes to traffic patterns are expected to occur at the site and traffic is not expected to be detoured during construction.

Indirect Impacts: No indirect impacts are anticipated.

3.3.6 Noise

The project site is located about 4 miles outside of downtown Raleigh, North Carolina and within a mile of an intensively developed residential area. The area currently experiences moderate traffic and urban noise.

No Action: The No Action would not result in any noise generation.

Proposed Action:

Direct Impacts: Noise would be generated at by the proposed project from a number of construction-related sources. These include the vehicular traffic cited above and heavy construction equipment. Typical sources of construction-related noise are shown in Table 3, along with expected noise levels at 25 and 50 feet from the source. It is estimated that such noise levels from the proposed action would be comparable to noise originating from a residential home or commercial building construction project. This may constitute a minor nuisance to the nearby area. Work would occur only during daylight hours, assuring no sleep disturbance for most people, and the overall impact would be short term and minor. Long term impacts resulting from operating the new facility would include the presence of the employees and operation of agricultural machinery related to research activities. Considering the site is currently used for agricultural production the new noise impacts would be similar to the existing conditions. Any increase of noise from the new facility would be considered negligible

Indirect Impacts: No indirect impacts are anticipated.

Table 3: Typical noises from construction in urban environments. Source: U.S. Department of Transportation, 1977

Typical Noise Generating Sources in Typical Urban Environments			
Construction Phase	Equipment	Noise Level at 25 ft (dBA-Leq)	Noise Level at 50 ft (dBA-Leq)
Clearing and grubbing	Bulldozer, backhoe	95	89
Earthwork	Scraper, bulldozer	97	91
Foundation	Backhoe, loader	94	88
Superstructure	Crane, loader	95	89
Base preparation	Trucks, bulldozer	97	91
Paving	Paver, trucks	98	92

3.3.7 Aesthetics

Affected Environment: The project site is located on land owned by North Carolina State University. The site contains agricultural fields and has a research facility on the adjacent property. Most of the land within a 0.5 mile radius is used for agricultural production. North Carolina State University maintains building and landscaping standards for areas on and around university property.

No Action: No impacts would occur to the area aesthetics under the No Action because no changes to view frames, vegetation, or architecture would occur.

Proposed Action:

Direct Impacts: The proposed action will result in the conversion of an agricultural field into a research facility. The new facility will be located adjacent to the existing NCSU Animal and Poultry Teaching Unit facilities and be required to follow the University's building and landscaping standards. Although view frames would be changed with the construction of a developed facility on agricultural fields, the construction will look similar to other structures already present near the project area. The temporary access road and staging area would be restored to existing condition following construction. There would be no long-term adverse effects to aesthetics of the area.

Indirect Impacts: No indirect impacts are anticipated.

3.3.8 Hazardous and Toxic Material Liabilities

There are no EPA Superfund sites in the vicinity of project area. There is a potential for substances being present from fertilizer and pesticides from past agricultural uses. Use of these agricultural chemicals would be reduced or eliminated as a result of converting

the use to a research facility.

No Action: No impacts would occur to risks of hazardous and toxic materials under the No Action because no disturbances to the soils, air, and waters would occur.

Proposed Action:

Direct Impacts: This alternative is expected to have no effect on Hazardous and Toxic Materials (HTM) and would not result in the production of HTM.

Indirect Impacts: No indirect impacts are anticipated.

3.3.9 Public Safety

For both the No Action and the Proposed Action alternatives, there would be no specific change in public safety hazards on site. During construction, standard safety measures would be taken to ensure unauthorized persons do not have access to the site. This would include use of construction fencing, signage, and prohibiting trespassers, etc. No interruption to the travel of emergency vehicles is expected as a result of the proposed action.

3.3.10 Protection of Children

On April 12, 1991, the President issued EO 13045, Protection of Children from Environmental Health Risks and Safety Risks. The EO seeks to protect children from disproportionately incurring environmental health or safety risks that might arise as a result of Federal policies, programs, activities, and standards. Children are potentially at greater risk for accidents such as falls, entrapments, etc.

During construction, standard safety measures would be taken to ensure children do not have access to the site. This would include use of construction fencing, signage, and prohibiting trespassers, etc. For both the No Action and the Proposed Action alternatives, there would be no increased risk to children.

3.3.11 Environmental Justice

On February 11, 1994, the President issued EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. The EO is designed to focus Federal attention on the environmental and human health conditions in minority and low-income communities with the goal of achieving environmental justice. The EO is also intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment. The EO states that Federal activities, programs, and policies should not produce disproportionately high and adverse impacts on minority and low-income populations. For both the No Action and

the Proposed Action alternatives, there would be no negative impacts to minority or low-income communities. An environmental justice report is included in Appendix D (EPA, 2022).

3.4 Cumulative Impacts

The CEQ regulations define cumulative impacts as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action.” (40 CFR. § 1508.7). Actions considered in the cumulative impacts analysis include implementation of the proposed action and no action alternatives and other Federal, State, Tribal, local agencies, or government or private actions that impact the resources affected by the proposed action.

The proposed action would involve the cut/ fill and grading of existing topography to allow for the construction of the new laboratory facilities. This project site is already disturbed and regularly tilled and planted with row crops such as corn and soybeans. Most of the soils at the site have been previously graded and disturbed. Impacts to the environmental resources of the area would be minor. This project does not cumulatively contribute to the environmental degradation of the local area.

4. COORDINATION

Coordination with the North Carolina State Historic Preservation Office will be initiated and comments on the proposed project and on the draft EA will be requested.

The National Resources Conservation Service has been contacted and all necessary coordination has been completed to ensure compliance with the Farmland Protection Policy Act (Appendix B).

A stormwater and erosion control permit package will be submitted to the City of Raleigh for a Site Permit Review. Through this process the project will get stormwater discharge approval for coverage under the North Carolina Construction General Permit NCG010000.

5. IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES WHICH WOULD BE INVOLVED SHOULD THE PROPOSED ACTION BE IMPLEMENTED

Any irreversible or irretrievable commitments of resources involved in the proposed action have been considered and are either unanticipated at this time or have been

considered and determined to present minor impacts by scope and scale. Although natural habitat would be impacted, it is not considered irreversible.

6. ADVERSE ENVIRONMENTAL IMPACTS WHICH CANNOT BE AVOIDED

Impacts to the site resulting from the construction of the facility would be minimal. An agricultural field will be permanently converted to a research facility. Wildlife will no longer be able to use the land and will have to relocate to adjacent areas. The unavoidable negative effects of the project are considered minor.

7. LIST OF PREPARERS

Jeremy Overstreet and Eric Gasch
Biologists, Wilmington District U.S. Army Corps of Engineers

Darrell Williamson
Safety, Health and Environmental Manager, Agricultural Research Service,
Administrative and Financial Management

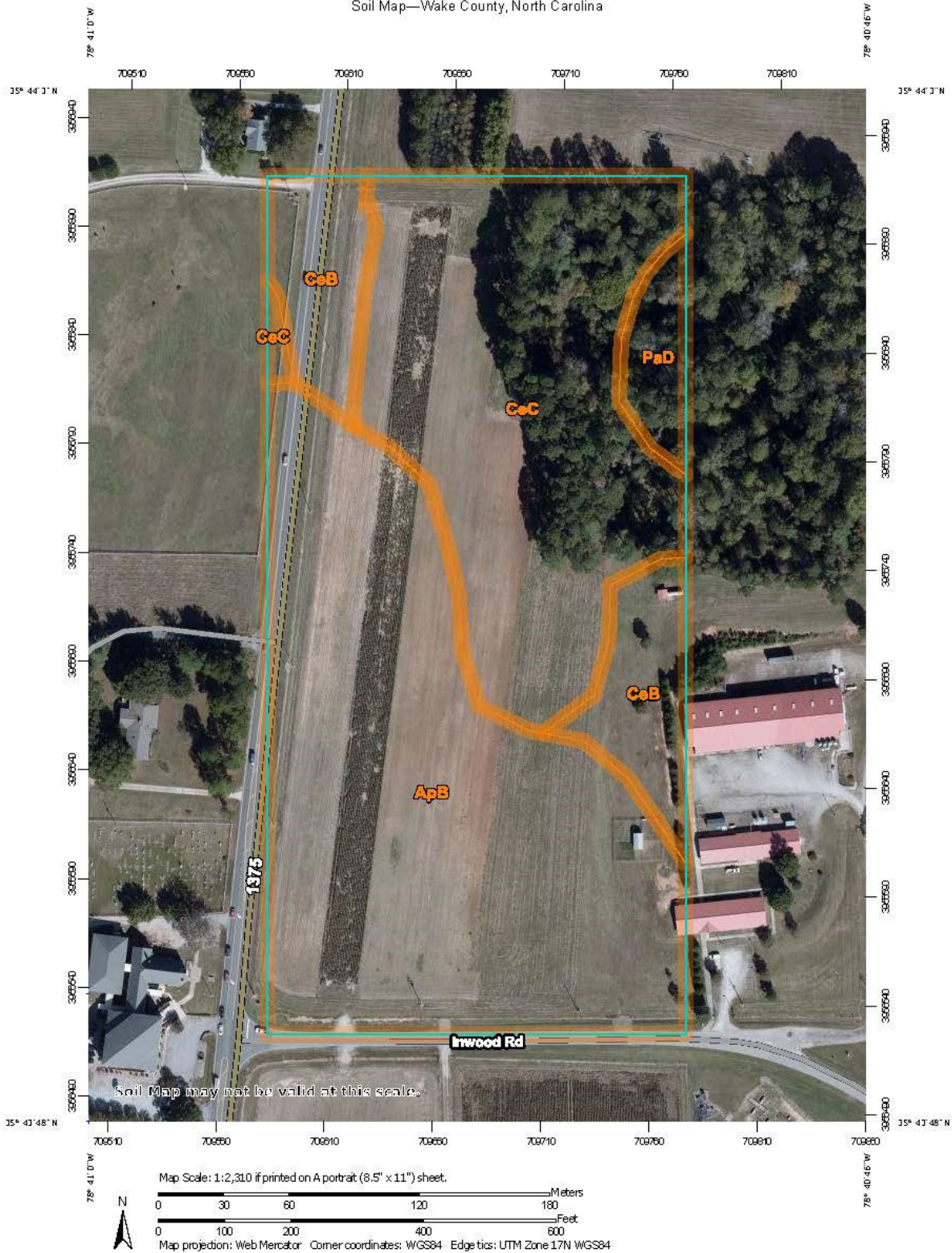
References






























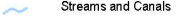

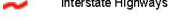
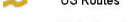
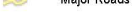


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Appendices

Appendix A: Soil Map (Web Soil Survey)

Soil Map—Wake County, North Carolina



MAP LEGEND	MAP INFORMATION
<p>Area of Interest (AOI)</p> <p> Area of Interest (AOI)</p> <p>Soils</p> <p> Soil Map Unit Polygons</p> <p> Soil Map Unit Lines</p> <p> Soil Map Unit Points</p> <p>Special Point Features</p> <p> Blowout</p> <p> Borrow Pit</p> <p> Clay Spot</p> <p> Closed Depression</p> <p> Gravel Pit</p> <p> Gravelly Spot</p> <p> Landfill</p> <p> Lava Flow</p> <p> Marsh or swamp</p> <p> Mine or Quarry</p> <p> Miscellaneous Water</p> <p> Perennial Water</p> <p> Rock Outcrop</p> <p> Saline Spot</p> <p> Sandy Spot</p> <p> Severely Eroded Spot</p> <p> Sinkhole</p> <p> Slide or Slip</p> <p> Sodic Spot</p>	<p> Spoil Area</p> <p> Stony Spot</p> <p> Very Stony Spot</p> <p> Wet Spot</p> <p> Other</p> <p> Special Line Features</p> <p>Water Features</p> <p> Streams and Canals</p> <p>Transportation</p> <p> Rails</p> <p> Interstate Highways</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p> <p>Background</p> <p> Aerial Photography</p>
	<p>The soil surveys that comprise your AOI were mapped at 1:24,000.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>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.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Wake County, North Carolina Survey Area Data: Version 20, Jun 3, 2020</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Oct 19, 2019—Oct 28, 2019</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ApB	Appling sandy loam, 2 to 6 percent slopes	9.3	49.5%
CeB	Cecil sandy loam, 2 to 6 percent slopes	2.2	11.4%
CeC	Cecil sandy loam, 6 to 10 percent slopes	6.8	36.0%
PaD	Pacolet sandy loam, 10 to 15 percent slopes	0.6	3.2%
Totals for Area of Interest		18.9	100.0%

Appendix B: USDA Farmland Protection Policy Act



United States Department of Agriculture

Natural Resources
Conservation Service

North Carolina
State Office

4407 Bland Rd.
Suite 117
Raleigh
North Carolina 27609
Voice (919) 873-2100
Fax (844) 325-2156

September 15, 2022

Jeremy Overstreet, Biologist, Environmental Resources Section
Wilmington District, U.S. Army Corps of Engineers
69 Darlington Ave.
Wilmington, NC 28402
Office: 910-251-4700

Dear Jeremy Overstreet:

The following information is in response to your request soliciting comments regarding the USDA Agricultural Research Facility in Wake County, NC.

Projects are subject to Farmland Protection Policy Act (FPPA) requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are completed by a Federal agency or with assistance from a Federal agency.

For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land. Farmland means prime or unique farmlands as defined in section 1540(c)(1) of the Act or farmland that is determined by the appropriate state or unit of local government agency or agencies with concurrence of the Secretary to be farmland of statewide or local importance.

"Farmland" does not include land already in or committed to urban development or water storage. Farmland "already in" urban development or water storage includes all such land with a density of 30 structures per 40-acre area. Farmland already in urban development also includes lands identified as "urbanized area" (UA) on the Census Bureau Map, or as urban area mapped with a "tint overprint" on the USGS topographical maps, or as "urban-built-up" on the USDA Important Farmland Maps. See over for more information.

The area in question **does include** land classified as Prime Farmland. In accordance with the Code of Federal Regulations 7CFR 658, Farmland Protection Policy Act, the AD-1006 was initiated. NRCS has completed Parts II, IV, V of the form, and returned for completion by the requesting agency.

If you have any questions, please feel free to email me at Laura.Muzzy@usda.gov.

Sincerely,

Laurie F. Muzzy
Resource Soil Scientist

cc:
Diana Irizarry, supervisory soil conservationist, NRCS, Raleigh, NC
Michael Jones, state soil scientist, Raleigh, NC

The Natural Resources Conservation Service
is an agency of the Department of Agriculture's
Farm Production and Conservation (FPAC).

An Equal Opportunity Provider, Employer, and Lender

U.S. Department of Agriculture						
FARMLAND CONVERSION IMPACT RATING						
PART I (To be completed by Federal Agency)			Date Of Land Evaluation Request September 12, 2022			
Name of Project USDA Agricultural Research Facility			Federal Agency Involved U.S. Department of Agriculture			
Proposed Land Use Research Facility			County and State Wake County, North Carolina			
PART II (To be completed by NRCS)			Date Request Received By NRCS 9/12/2022		Person Completing Form: Laurie F. Muzzy	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? (If no, the FPPA does not apply - do not complete additional parts of this form)			YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated 0	Average Farm Size 111
Major Crop(s) corn		Farmable Land In Govt. Jurisdiction Acres: 78.91 % 432,714		Amount of Farmland As Defined in FPPA Acres: 78.91 % 432,714		
Name of Land Evaluation System Used Wake County LESA		Name of State or Local Site Assessment System NA		Date Land Evaluation Returned by NRCS 9/15/2022		
PART III (To be completed by Federal Agency)				Alternative Site Rating		
				Site A	Site B	Site C
A. Total Acres To Be Converted Directly				12.12		
B. Total Acres To Be Converted Indirectly				0		
C. Total Acres In Site				12.12		
PART IV (To be completed by NRCS) Land Evaluation Information						
A. Total Acres Prime And Unique Farmland				8.6		
B. Total Acres Statewide Important or Local Important Farmland				3.5		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted				0.003%		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value				7.97%		
PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)				85.44		
PART VI (To be completed by Federal Agency) Site Assessment Criteria (Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)			Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use			(15)	0		
2. Perimeter In Non-urban Use			(10)	10		
3. Percent Of Site Being Farmed			(20)	3		
4. Protection Provided By State and Local Government			(20)	0		
5. Distance From Urban Built-up Area			(15)	5		
6. Distance To Urban Support Services			(15)	5		
7. Size Of Present Farm Unit Compared To Average			(10)	10		
8. Creation Of Non-farmable Farmland			(10)	0		
9. Availability Of Farm Support Services			(5)	5		
10. On-Farm Investments			(20)	0		
11. Effects Of Conversion On Farm Support Services			(10)	0		
12. Compatibility With Existing Agricultural Use			(10)	0		
TOTAL SITE ASSESSMENT POINTS			160	38	0	0
PART VII (To be completed by Federal Agency)						
Relative Value Of Farmland (From Part V)			100	85.44	0	0
Total Site Assessment (From Part VI above or local site assessment)			160	38	0	0
TOTAL POINTS (Total of above 2 lines)			260	123.44	0	0
Site Selected: Site A		Date Of Selection 03-Feb-2023		Was A Local Site Assessment Used? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		
Reason For Selection: Site meets all objectives and is in compliance with the Farmland Protection Policy Act.						
Name of Federal agency representative completing this form: US Army Corps of Engineers					Date: 03-Feb-2023	
(See Instructions on reverse side)					Form AD-1006 (03-02)	

Appendix C: List of ESA Listed Species (IPAC)



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Ecological Services Field Office
Post Office Box 33726
Raleigh, NC 27636-3726
Phone: (919) 856-4520 Fax: (919) 856-4556



In Reply Refer To:
Project Code: 2023-0041677
Project Name: USDA Facilities

February 03, 2023

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.*). If your project area contains suitable habitat for any of the federally-listed species on this species list, the proposed action has the potential to adversely affect those species. If suitable habitat is present, surveys should be conducted to determine the species' presence or absence within the project area. The use of this species list and/or North Carolina Natural Heritage program data should not be substituted for actual field surveys.

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 ECOS-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 ECOS-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:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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, intentional or unintentional, 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/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. 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/birds/bird-enthusiasts/threats-to-birds.php>.

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/birds/policies-and-regulations/executive-orders/e0-13186.php>.

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
- Migratory Birds

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:

Raleigh Ecological Services Field Office

Post Office Box 33726

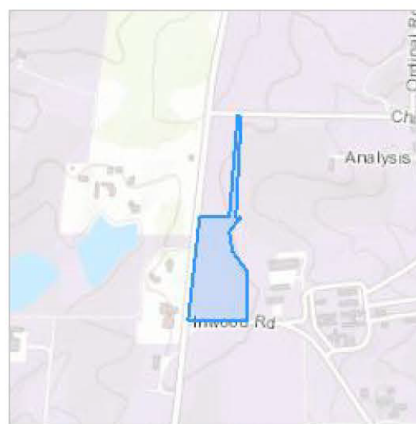
Raleigh, NC 27636-3726

(919) 856-4520

Project Summary

Project Code: 2023-0041677
Project Name: USDA Facilities
Project Type: Government / Municipal (Non-Military) Construction
Project Description: Construction of USDA facilities
Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@35.73273555,-78.68189054078363,14z>



Counties: Wake County, North Carolina

Endangered Species Act Species

There is a total of 9 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 Fisheries¹, 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.

-
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 <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

Amphibians

NAME	STATUS
Neuse River Waterdog <i>Necturus lewisi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6772	Threatened

Fishes

NAME	STATUS
Carolina Madtom <i>Noturus furiosus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/528	Endangered

Clams

NAME	STATUS
Atlantic Pigtoe <i>Fusconaia masoni</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5164	Threatened
Dwarf Wedgemussel <i>Alasmidonta heterodon</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/784	Endangered
Yellow Lance <i>Elliptio lanceolata</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4511	Threatened

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Michaux's Sumac <i>Rhus michauxii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5217	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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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)

The birds listed below are birds of particular concern either because they occur on the [USEWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> 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.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo <i>Coccyzus erythrophthalmus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

NAME	BREEDING SEASON
Cerulean Warbler <i>Dendroica cerulea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 28 to Jul 20
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will <i>Antrastomus vociferus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler <i>Oporornis formosus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Prairie Warbler <i>Dendroica discolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird <i>Euphagus carolinus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	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 and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

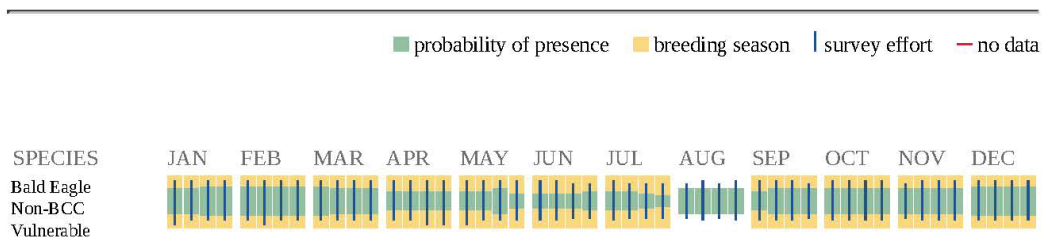
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

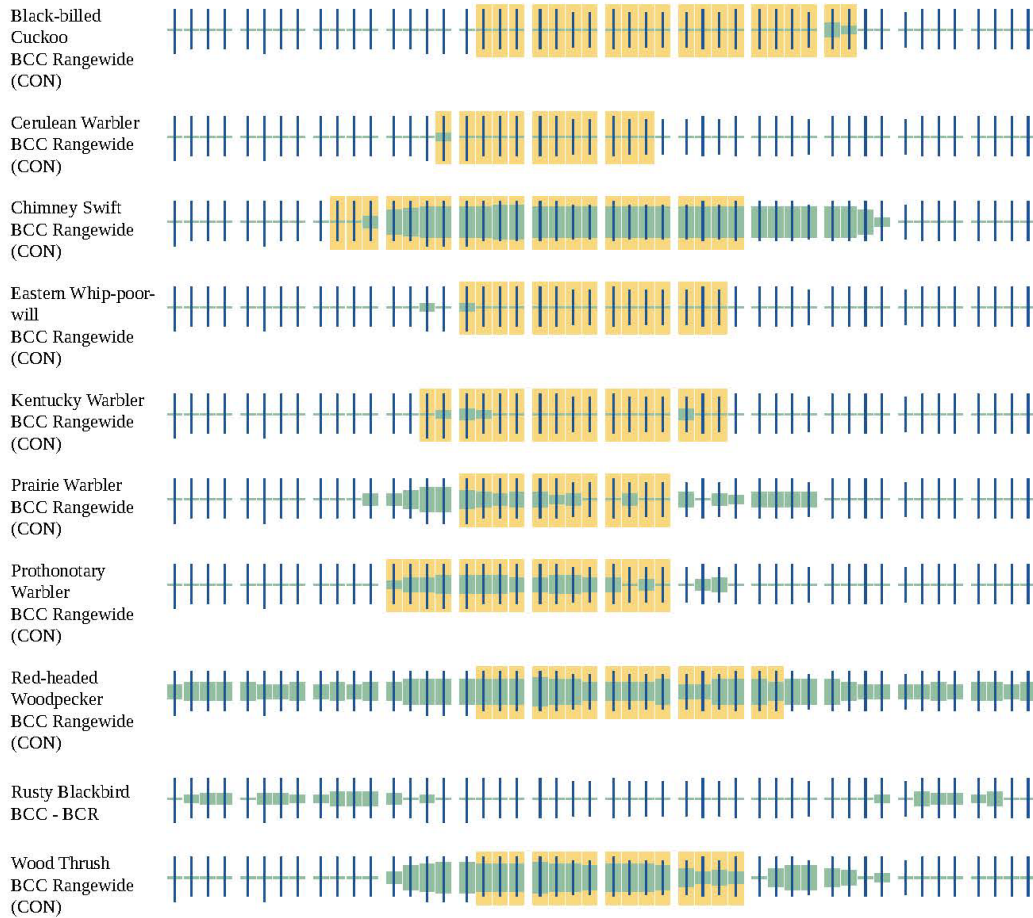
No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in

the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

IPaC User Contact Information

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EJScreen Report (Version 2.0)



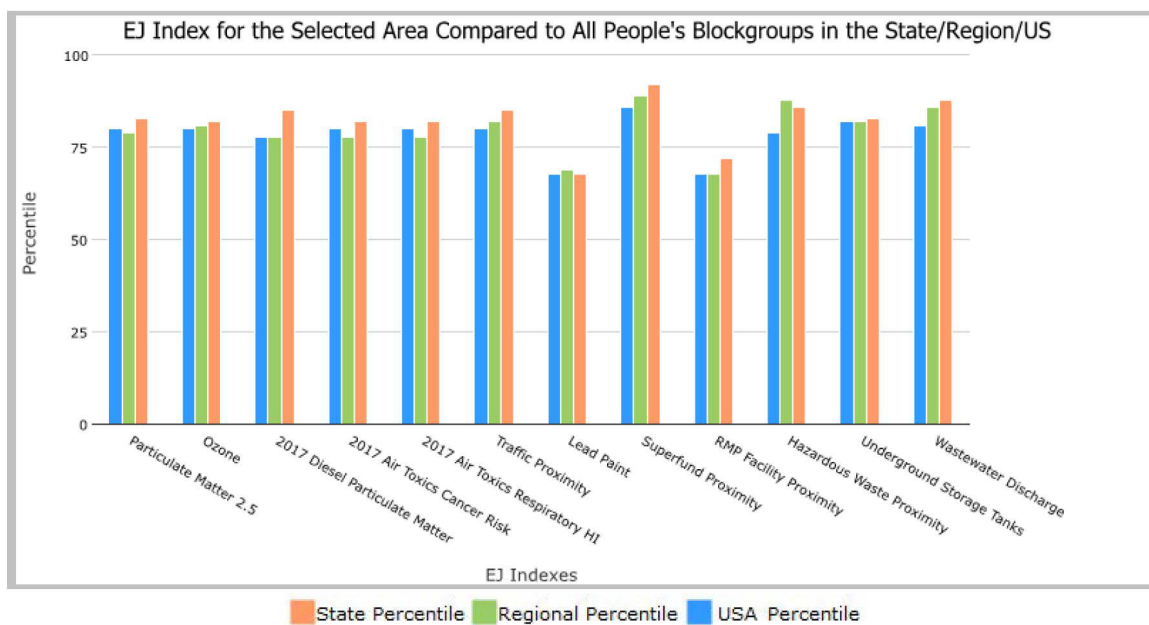
1 mile Ring Centered at 35.731464,-78.682053, NORTH CAROLINA, EPA Region 4

Approximate Population: 1,075

Input Area (sq. miles): 3.14

USDA ARS

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
Environmental Justice Indexes			
EJ Index for Particulate Matter 2.5	83	79	80
EJ Index for Ozone	82	81	80
EJ Index for 2017 Diesel Particulate Matter*	85	78	78
EJ Index for 2017 Air Toxics Cancer Risk*	82	78	80
EJ Index for 2017 Air Toxics Respiratory HI*	82	78	80
EJ Index for Traffic Proximity	85	82	80
EJ Index for Lead Paint	68	69	68
EJ Index for Superfund Proximity	92	89	86
EJ Index for RMP Facility Proximity	72	68	68
EJ Index for Hazardous Waste Proximity	86	88	79
EJ Index for Underground Storage Tanks	83	82	82
EJ Index for Wastewater Discharge	88	86	81



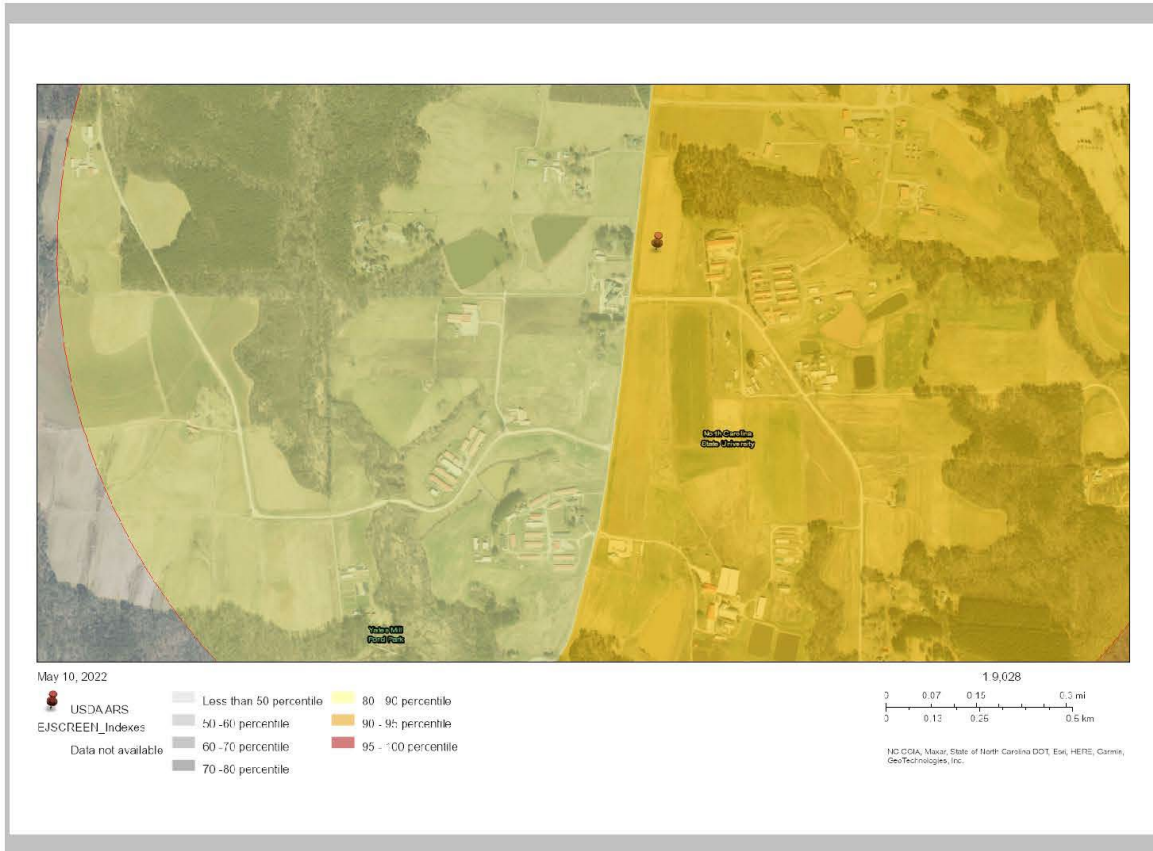
This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

1 mile Ring Centered at 35.731464, -78.682053, NORTH CAROLINA, EPA Region 4

Approximate Population: 1,075

Input Area (sq. miles): 3.14

USDA ARS



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0



EIScreen Report (Version 2.0)



1 mile Ring Centered at 35.731464,-78.682053, NORTH CAROLINA, EPA Region 4

Approximate Population: 1,075

Input Area (sq. miles): 3.14

USDA ARS

Selected Variables	Value	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Pollution and Sources							
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	8.54	7.74	71	8.18	65	8.74	48
Ozone (ppb)	42.2	41.7	58	37.9	77	42.6	49
2017 Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.236	0.182	74	0.261	50-60th	0.295	<50th
2017 Air Toxics Cancer Risk* (lifetime risk per million)	30	29	95	31	80-90th	29	80-90th
2017 Air Toxics Respiratory HI*	0.4	0.37	94	0.4	70-80th	0.36	80-90th
Traffic Proximity (daily traffic count/distance to road)	210	350	61	430	59	710	49
Lead Paint (% Pre-1960 Housing)	0.075	0.16	43	0.15	50	0.28	34
Superfund Proximity (site count/km distance)	0.14	0.082	87	0.083	85	0.13	76
RMP Facility Proximity (facility count/km distance)	0.11	0.39	28	0.6	23	0.75	18
Hazardous Waste Proximity (facility count/km distance)	0.77	0.83	66	0.62	76	2.2	51
Underground Storage Tanks (count/km ²)	2	3.4	62	3.5	62	3.9	59
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.0053	0.25	77	0.45	76	12	64
Socioeconomic Indicators							
Demographic Index	46%	36%	71	37%	68	36%	69
People of Color	48%	37%	68	39%	65	40%	63
Low Income	44%	34%	69	35%	67	31%	73
Unemployment Rate	2%	6%	23	6%	23	5%	24
Linguistically Isolated	3%	2%	73	3%	69	5%	61
Less Than High School Education	7%	12%	38	13%	36	12%	43
Under Age 5	4%	6%	35	6%	36	6%	34
Over Age 64	8%	16%	16	17%	14	16%	18

*Diesel particular matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's 2017 Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

EIScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EIScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EIScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.