CSTEE-0008-00(986); Bibb County P.I. Number 0008986

Ocmulgee Heritage Trail: Walnut Creek Extension

The proposed expansion of the Ocmulgee Heritage Trail from Otis Redding Bridge along the Ocmulgee River to near the mouth of Walnut Creek.

ENVIRONMENTAL ASSESSMENT

U.S. DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION,

U.S. DEPARTMENT OF INTERIOR

NATIONAL PARK SERVICE,

AND

GEORGIA DEPARTMENT OF TRANSPORTATION

SUBMITTED PURSUANT TO 42 USC 4321 et. seq.

APPROVAL FOR ADVANCEMENT TO AVAILABILITY/PUBLIC HEARING PHASE

11/1/2013
DATE

FOR: GLENN BOWMAN, P.E.
STATE ENVIRONMENTAL ADMINISTRATOR
GEORGIA DEPARTMENT OF TRANSPORTATION

11/21/13
DATE

FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

APPROVAL OF ENVIRONMENTAL ASSESSMENT

_____
DATE

FOR: RODNEY N. BARRY, P.E.
DIVISION ADMINISTRATOR
FEDERAL HIGHWAY ADMINISTRATION

_____
DATE

FOR: GLENN BOWMAN, P.E.
STATE ENVIRONMENTAL ADMINISTRATOR
GEORGIA DEPARTMENT OF TRANSPORTATION

EXECUTIVE SUMMARY[1]

The Georgia Department of Transportation (GDOT), in cooperation with the National Park Service (NPS) and the Federal Highway Administration (FHWA), is undertaking this Environmental Assessment (EA) for an extension of the Ocmulgee Heritage Trail (or Heritage Trail) into the Ocmulgee National Monument (OCMU). This extension—called the Walnut Creek Extension—is the proposed project for this EA, which will assess the proposed project's impact per FHWA and NPS requirements in order to comply with the National Environmental Policies Act (NEPA). The OCMU is located on the eastern edge of the City of Macon in central Georgia. In order to improve visitor access and recreational opportunities, the proposed project would connect the proposed Otis Redding Loop Trail and existing OCMU trails by way of a 10-foot wide concrete, gravel, or asphalt trail running essentially parallel to Interstate 16 (I-16) and the Ocmulgee River. The Otis Redding Loop Trail is part of the Ocmulgee Heritage Trail: Amerson Water Works Park, Old Bibb Mill, and Otis Redding Loop Trail project (CSHPP-0007-00(636), GDOT P.I. 0007636).

The Walnut Creek Extension would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop Trail and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River. The total length of the proposed trail is approximately 6,500 feet (1.23 miles) in length and would require right of entry from the OCMU. Current deficiencies of the OCMU trail system include poor accessibility and visitor use in the southwestern portion, in contrast with the increasing visitation demands. The Walnut Creek Extension would serve to improve visitor access and recreational opportunities by providing continuity in the OCMU trail system. This EA describes the affected environment and analyzes potential impacts associated with the no-build and build alternatives.

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[1] This is a NPS requirement per Directors Order (DO) 12.

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LIST OF ABBREVIATED TERMS

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
ARPA	Archaeological Resources Protection Act
BMP	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
DO	Director's Order
DOI	United States Department of Interior
DOT	United States Department of Transportation
E	Endangered
EA	Environmental Assessment
EO	Executive Order
EPD	Environmental Protection Division
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GDNR	Georgia Department of Natural Resources
GDOT	Georgia Department of Transportation
GEPD	Georgia Environmental Protection Division
GHG	Greenhouse Gases
GHS	Georgia Historical Society

GPS	Global Positioning System
GWRD	Wildlife Resources Division, Georgia Department of Natural Resources
Heritage Trail	Ocmulgee Heritage Trail
HUC	Hydrological Unit Code
I	Interstate
ICI	Indirect and Cumulative Impacts
Joint Coordination Procedures	Joint Coordination Procedures for the Endangered Species Act and Fish and Wildlife Coordination Act for the Georgia Offices of the U.S. Fish and Wildlife Service, Federal Highway Administration, and the Georgia Department of Transportation as Amended January 2007
LLC	Limited Liability Corporation
MBTA	Migratory Bird Treaty Act
MOA	Memorandum of Agreement
MPO	Metropolitan Planning Organization
MSAT	Mobile Source Air Toxics
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NL	Not Listed
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OCMU	Ocmulgee National Monument
Organic Act	Organic Act of 1916 for NPS
P	Rare, Protected

$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
RCW	Red-cockaded woodpeckers
S1	Stream-1
S2	Stream-2
S3	Stream-3
SC	State Species of Concern
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
T	Threatened
TIP	Transportation Improvement Program
TMA	Transportation Management Association
TMDLs	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
USC	United States Code
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
W1	Wetland-1
W2	Wetland-2

I. NEED AND PURPOSE

A. Introduction

The Georgia Department of Transportation (GDOT), in cooperation with the National Park Service (NPS) and Federal Highway Administration (FHWA), is undertaking this Environmental Assessment (EA) for an extension of the Ocmulgee Heritage Trail (or Heritage Trail) into the Ocmulgee National Monument (OCMU). This EA will assess the proposed project's impact per FHWA and NPS requirements in order to comply with NEPA. This extension – called the Walnut Creek Extension – is the proposed project for this EA. Several coordination meetings were held between the cooperating agencies in order to discuss the proposed project and the approach for the EA (Appendix D).

The need for this project is to correct deficiencies in the current trail system in the southwestern portion of the OCMU. The Heritage Trail expansion was included in the 2012-15 Transportation Improvement Program (TIP) for Bibb County as a Transportation Enhancement (TE) Lump Sum item funded as TIP #MCN-TEA-1 and as GDOT TE Lump Sum item funded as PI 0006122. The purpose of this project is to improve visitor access and use in the southwestern portion of the OCMU by connecting the Otis Redding Loop Trail to existent OCMU trails. The Otis Redding Loop Trail project (CSHPP-0007-00(636), GDOT P.I. 0007636) is part of the planned Ocmulgee Heritage Trail, which also includes the Amerson Water Works Park and the Old Bibb Mill. The project would begin approximately 950 feet east of the Otis Redding Bridge at the future terminus of the Otis Redding Loop Trail and would terminate approximately 670 feet from the intersection of Walnut Creek and the Ocmulgee River at an existing OCMU trail. The total length of the Walnut Creek Extension is approximately 6,500 feet (1.23 miles).

B. Planning Basis for the Action

The OCMU is located on the eastern edge of the City of Macon in central Georgia (Figure 1-1). Macon is the Bibb County seat and has an estimated 2006 population of 93,665 (United States Census Bureau (USCB), 2009). The OCMU is open year-round (NPS, 2010). From 2005 to 2009, it received an average of 119,670 visitors annually (NPS, 2010). The park encompasses 700 acres and contains

approximately 5 miles of walking and biking trails, including the Opelofa, Loop, Bartram, McDougal, Mound Village, and Heritage Trails (NPS, 2001). The southwestern portion of the OCMU is bisected by Interstate 16 (I-16).

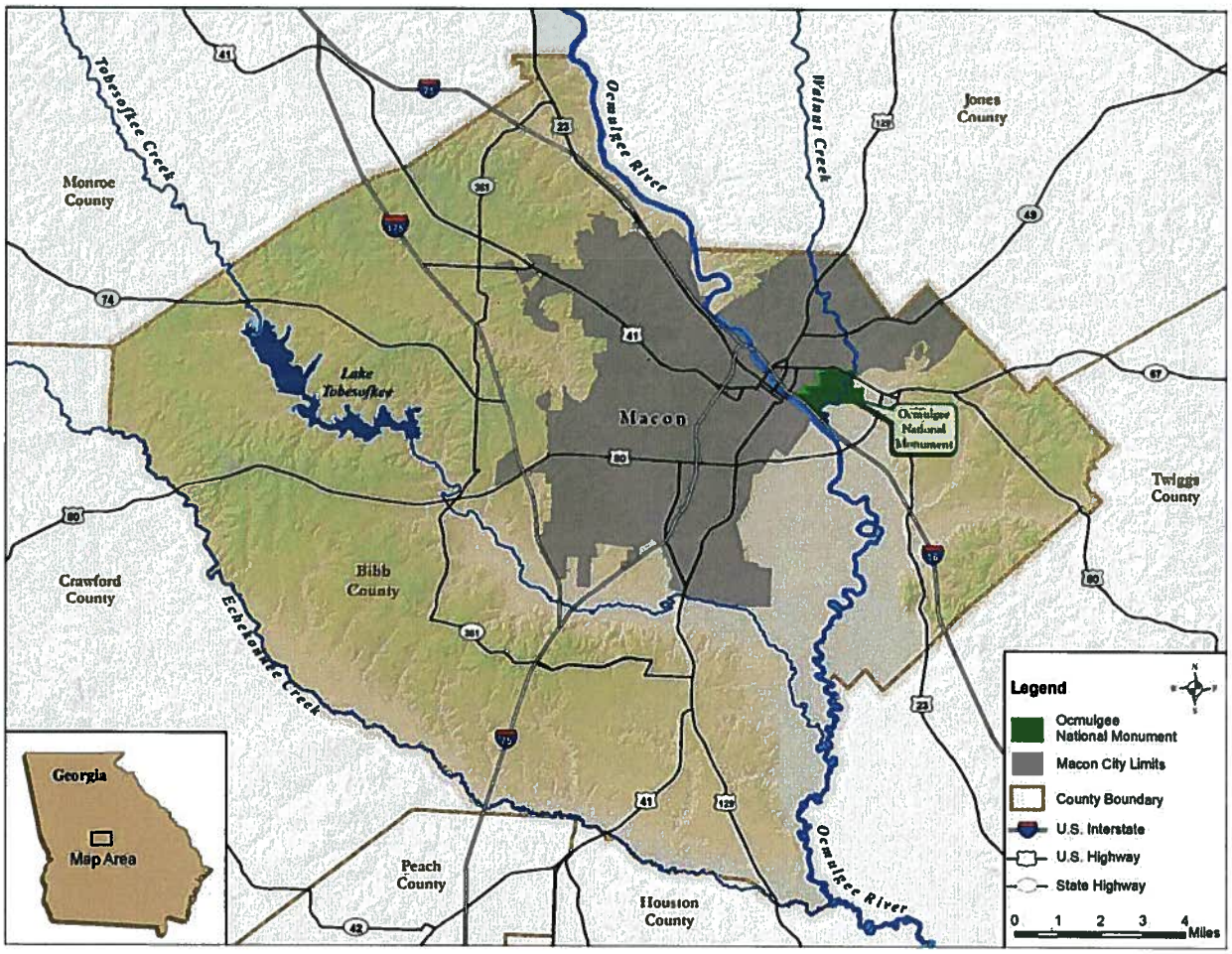

Figure 1-1. Project Location Map

Source: ESRI software, 2002

The present terminus of the OCMU Monument Trail is located between I-16 and the Ocmulgee River near Walnut Creek (Figure 1-2). Construction of the Otis Redding Loop Trail (anticipated for 2012) would extend the Heritage Trail to the Otis Redding Bridge just west of OCMU. In order to improve visitor access and recreational opportunities, the proposed project would connect the future Otis Redding

Loop Trail to the existing OCMU Trail by way of a 10-foot wide gravel, concrete, or asphalt trail running essentially parallel to I-16 and the Ocmulgee River (Figure 1-2).

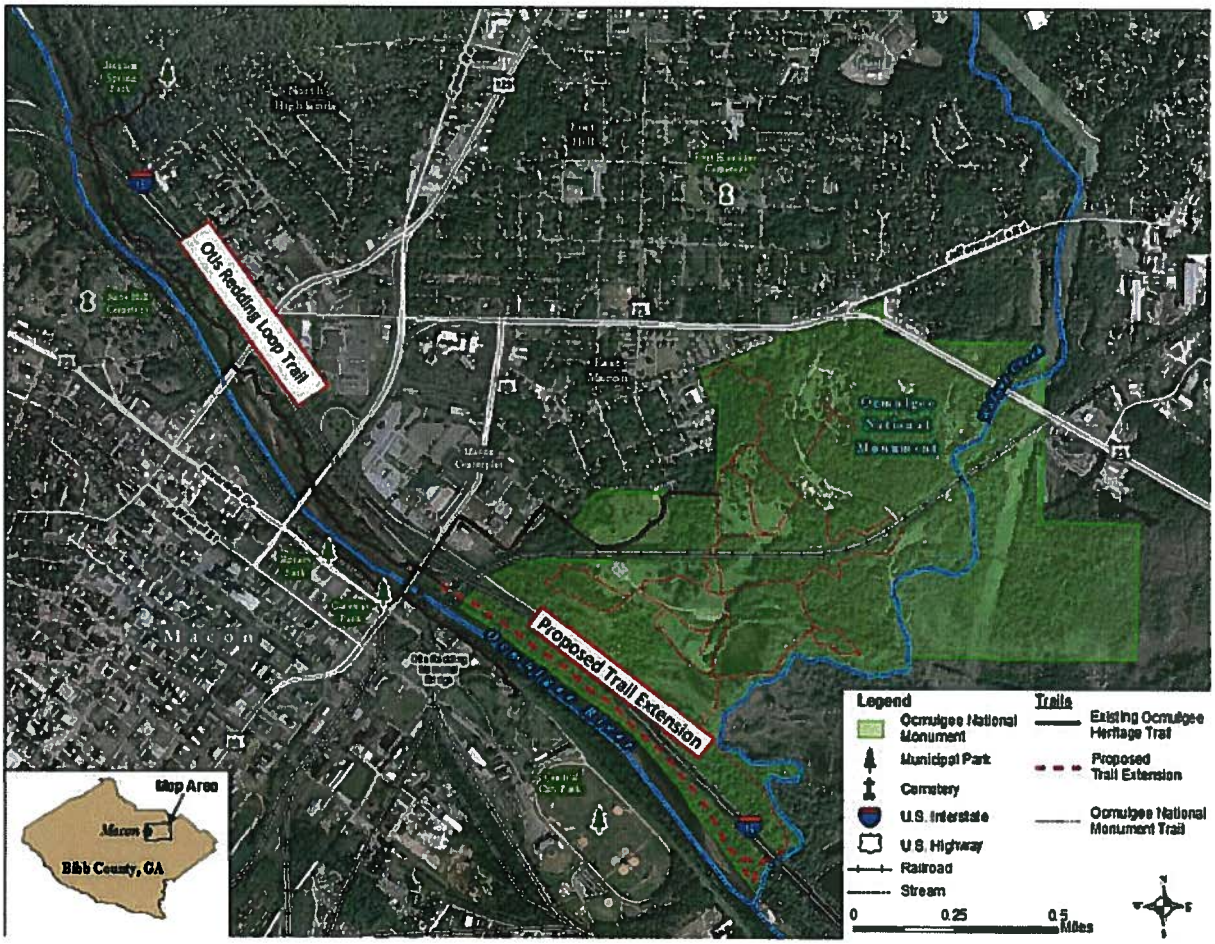

Figure 1-2. Map of Ocmulgee National Monument Trails and Ocmulgee Heritage Trail

Source: ESRI software, 2002

C. Deficiencies in the System

The southwestern portion of the OCMU is currently underutilized due to the absence of trails, which translates to poor visitor accessibility. This deficiency in the OCMU trail system is exacerbated by increasing visitation trends (Figure 1-3). Despite the visitation fluctuation in Figure 1-3, increased visitation is the overall trend. The Walnut Creek Extension would serve to provide continuity in the OCMU trail system as well as to improve visitor access and recreational opportunities.

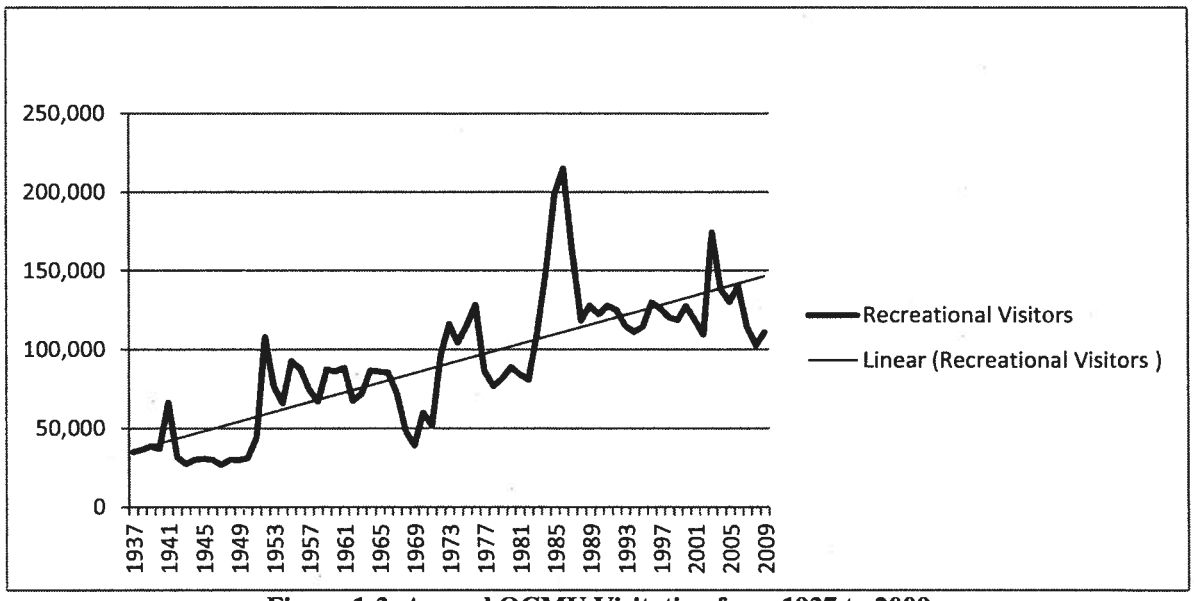

Figure 1-3. Annual OCMU Visitation from 1937 to 2009

Source: (NPS, No date)

D. Logical Termini

The northern terminus of the proposed Walnut Creek Extension would be located approximately 950 feet southeast of the Otis Redding Bridge at the end of the future Otis Redding Loop Trail (CSHPP-0007-00(636), GDOT PI 0007636), which has an approved CE and is scheduled to let in March 2012 and therefore, should be in place prior to construction of the proposed project. The southern terminus would be approximately 670 feet northwest of Walnut Creek at an existing OCMU trail. The Walnut Creek Extension would connect logical termini, be usable and a reasonable expenditure even without other local transportation improvements; be of sufficient length to address environmental matters on a broad scope;

and would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

II. DESCRIPTION OF ALTERNATIVES

A. Introduction

Following standard procedure, the proposed project alignments were developed to include environmental parameters as a part of the location investigation prior to laying out a proposed alignment. Basic data on the corridor was gathered and studied. Data for this project included, at a minimum, aerial photography, topographic maps, previous studies, wetland inventory maps, soil surveys maps, floodplain maps, and Georgia Department of Natural Resources' (GDNR) historic resource survey maps.

Wetland and hydric soil boundaries, floodplains, parks, and recreational facilities, known or suspected historical and archaeological sites, existing rights-of-way, possible underground storage tanks/landfill/hazardous waste sites, and areas of possible endangered species habitat were delineated on the aerial photographs prior to laying out an alignment. Aerial photographs also identified other "controls" such as churches, cemeteries, schools, hospitals, and other noise sensitive areas. Only at this point was the proposed alignment delineated with every attempt made to avoid environmentally sensitive areas. Where avoidance was not possible, every attempt was made to minimize harm to resources. The proposed alignment was then field checked and additional refinements were made to further minimize harm to both the natural and built environment.

Two alternatives were considered for the Walnut Creek Extension of the Heritage Trail from the Otis Redding Bridge to OCMU's Monument Trail: the build alternative and the no-build alternative.

B. The Build Alternative

The preferred alternative is the proposed construction of a 6,500-foot extension of the Heritage Trail between the Ocmulgee River and I-16, eventually connecting to the existing OCMU Monument Trail near Walnut Creek (Figure 1-2). Approximately one mile of the trail would be located within OCMU.

This portion of the OCMU is currently undeveloped and reserved for recreational uses. The remaining section of the trail, near the Otis Redding Bridge, would be constructed on land jointly owned by the City of Macon and Norfolk Southern Railroad Company, with easements granted to Georgia Power Company and Macon Water Authority. This portion of the trail on non-NPS land is small. The meandering 10-foot wide trail would remain between 30 and 100 feet from the banks of the Ocmulgee River at all times, so the trail would not penetrate the 25-foot warm-water vegetated stream buffer. Due to the sensitive nature of the OCMU area, the construction of the proposed trail would maintain existing grades to the greatest extent possible.

The trail would be constructed with concrete, asphalt or gravel, depending upon budget constraints at the time of construction. The trail surface was discussed with NPS during a meeting on May 12, 2010 (See Appendix D: Agency Coordination Meeting Notes). Currently, NPS has not yet identified a preferred material for the trail surface; however, regardless of the selection of the trail surface, the trail will be compliant with the Americans with Disabilities Act (ADA). One 60 foot long footbridge would cross over Stream-1 (S1) (See Section II(E)3: Waters of the U.S. for further details). This footbridge would be approximately 630 feet from the Otis Redding Bridge. The project would also introduce a culvert to a NPS Wetland (W1) in order to cross the feature (See Section II(E)4: NPS Wetlands for further details). Subsequent to the 2010 ecology report approval, additional investigation revealed that an existing culvert at S1 should be able to handle the construction traffic given its current use for maintenance traffic. Consequently, the additional culvert through S1, previously proposed in the ecology report, has been removed from consideration.

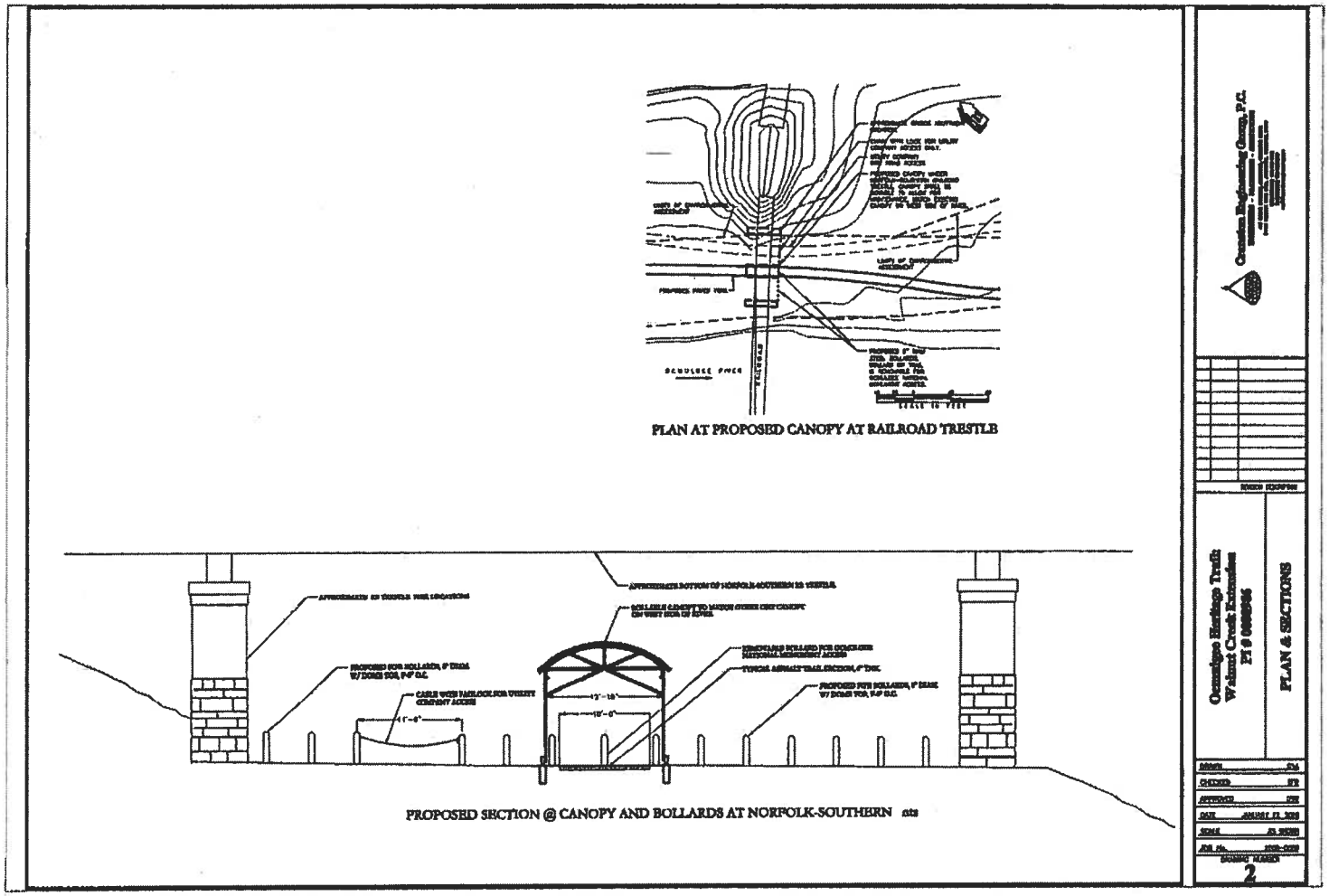

Figure 2-1. Concept Design for Canopy

Source: (Cranston Engineering Group, 2010).

A canopy would be constructed under the Norfolk-Southern Railroad trestle (See Figure 2-2). This canopy would allow safe track and trestle maintenance in concurrence with pedestrians utilizing the trail below (Environmental Services, Inc., 2010).

The trail would be constructed using low-impact techniques such as keeping mostly with the existing grade, avoiding environmentally sensitive areas, and minimizing clearing during construction. All heavy equipment would be staged in upland areas to avoid impacts to the Walnut Creek, Ocmulgee River, and NPS wetlands. Removal of shrubby vegetation [consisting largely of non-native Chinese privet (*Ligustrum sinense*), the dominant understory species] would be necessary for the trail and an additional four-to-six foot wide lawn on either side of the trail would be planted. Removal of trees and native vegetation would be avoided to the greatest extent possible, and areas along the river side of the trail where non-native species removal has taken place would be seeded with native plant species.

C. The No-Build Alternative

Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations (CFR) 1502.14) require the assessment of a no-action alternative in National Environmental Policy Act (NEPA) documents. The no-action alternative provides a basis for comparing the management direction and environmental consequences of the proposed action and must be considered in every EA. Under the no-build alternative, GDOT would take no action to fund or construct the proposed trail expansion, Walnut Creek Extension. The no-build alternative, which is the no-action alternative, would not meet the purpose and need of improving visitor accessibility and recreational opportunities at the OCMU.

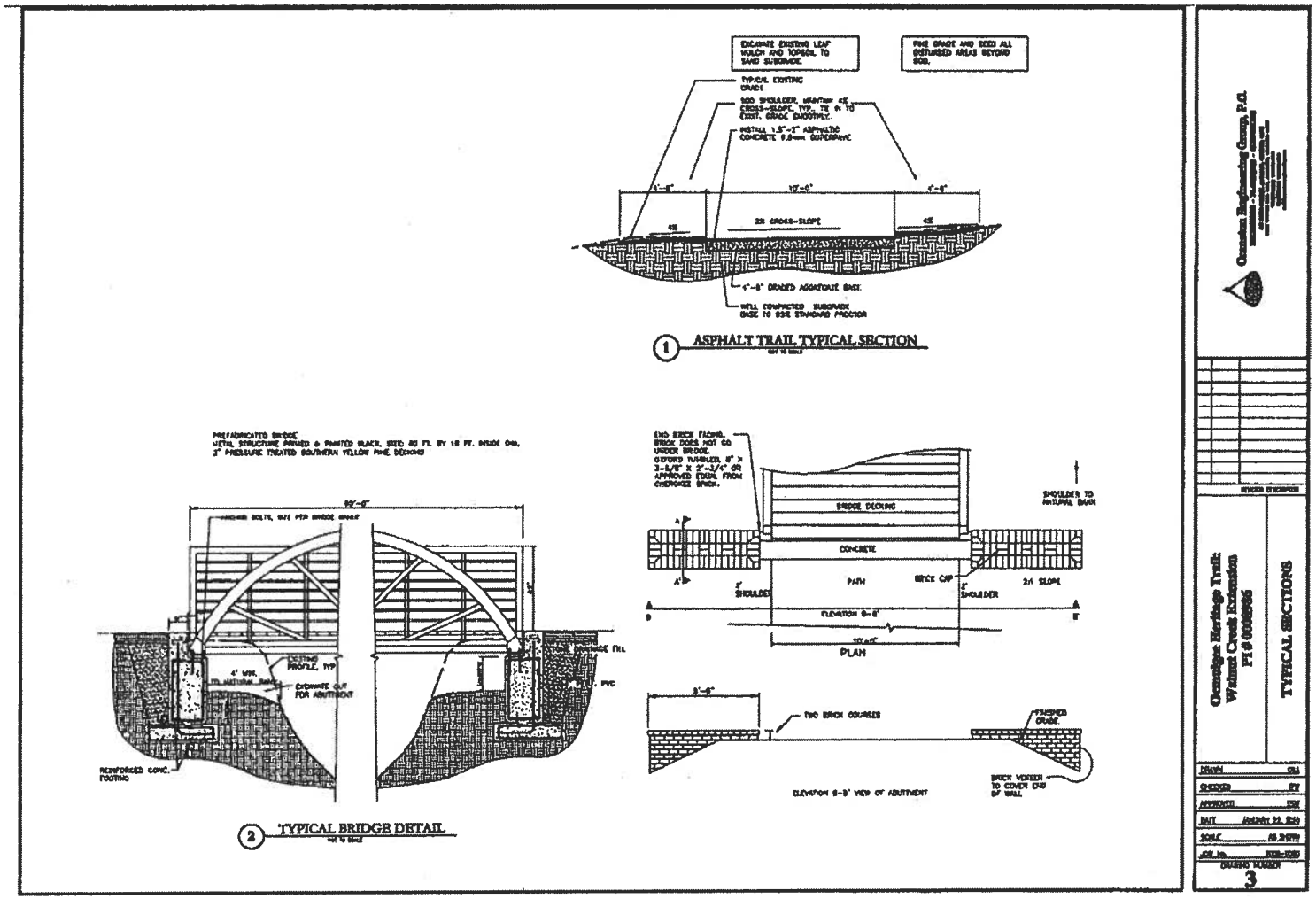

Figure 2-2. Typical Section of Trail and Bridge

Source: (Cranston Engineering Group, 2010).

D. Alternatives No Longer Under Consideration

CEQ regulations for implementing NEPA require that Federal agencies explore and objectively evaluate all reasonable alternatives of a proposed action and briefly discuss the rationale for eliminating alternatives not considered in detail. This section describes the only other alternative to the Build Alternative considered and eliminated from further study. It proposed construction within the stream buffer, which was dismissed due to environmental sensitivity.

E. Environmentally Preferred Alternative

In accordance with NPS's Director's Order (DO)-12, NPS is required to identify the "environmentally preferred alternative" in all environmental documents, including EAs. This was determined by applying the criteria suggested in NEPA, which is guided by the CEQ. As stated in Section 2.7 (D) of the NPS DO-12 Handbook, "The environmentally preferred alternative is the alternative that will best promote the national environmental policy expressed in NEPA (Section 101(b))." This environmental policy is stated in six goal statements, which include:

1. Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences;
4. Preserve important historic, cultural, and natural aspects of our national heritage, and maintain wherever possible, an environment which supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources (NEPA, 42 USC 4321-4347).

In summary, the environmentally preferred alternative is the alternative that not only results in the least damage to the biological and physical environment but also best protects, preserves, and enhances

historic, cultural, and natural resources. The Build Alternative is the environmentally preferred alternative for the following reasons:

1. It contributes to meeting Policy Goal #1 because the trail would provide visitor access to otherwise inaccessible areas of the OCMU while improving the surrounding ecosystem through removal of non-native plant species and seeding of native ones.
2. It contributes to meeting Policy Goal #2 because it would provide public access to otherwise inaccessible areas in a safe and productive manner and to scenic and aesthetically pleasing natural surroundings.
3. It contributes to meeting Policy Goal #3 because it would offer the widest range of beneficial uses of the environment without degradation, risk to health and safety, or other undesirable and unintended consequences.
4. It contributes to meeting Policy Goal #4 by improving visitor opportunities in the OCMU, which provides access to historic and cultural heritage.
5. It contributes to meeting Policy Goal #5 because it would accommodate the demands for visitor use at the OCMU by connecting the proposed Otis Redding Loop Trail and the existing OMCU trail without causing considerable environmental degradation.
6. It contributes to meeting Policy Goal #6 because the trail would enhance the quality of renewable resources with building materials and design that address environmental concerns in the selection of materials and landscaping plants.

F. Comparison of Alternatives[2]

Table 1. Summary of Alternatives

	Description of Components	Fulfills Purpose and Need
Build Alternative	Project components are trail expansion, canopy, a footbridge, and a culvert. The trail expansion along the Ocmulgee River would be asphalt, concrete, or gravel. It would start at the Otis Redding Loop Trail's future terminus at the Otis Redding Bridge and would end within 670 feet of the confluence of Walnut Creek and Ocmulgee River.	Yes
No-Build Alternative	The OCMU trails remain in current configuration with no expansion.	No

[2] This section is a NPS requirement.

Table 2. Summary Impacts of the Alternatives

Impact Topic	Build Alternative	No-Build Alternative
Land Use Changes	Direct and cumulative effects: beneficial; no indirect effects	No direct, indirect, or cumulative effects (negligible impacts)
Economics	Negligible, short-term direct effects, no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Community Cohesion	Minor, beneficial, long-term direct and cumulative effects, no indirect effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts).
Relocations	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Churches and Institutions	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Community Impacts/Environmental Justice	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Public Involvement	Public involvement would be accomplished after the Draft EA is approved via an announcement in the OCMU newsletter and a major newspaper.	No direct, indirect, or cumulative effects (negligible impacts)
Historic Resources	Direct, indirect, and cumulative: no adverse effects provided bridge footings do not extend deeper than 5.5 feet	No direct, indirect, or cumulative effects (negligible impacts)
Archaeological Resources	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Parklands/Recreation Areas/Wildlife Refuges	Minor, beneficial, long-term direct and indirect effects, moderate, beneficial, long-term cumulative effects	Minor, adverse, long-term direct and cumulative effects; and no indirect effects (negligible impact)
Water Quality	No direct effects; negligible, long-term, local, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Waters of the U.S.	Minor, short-term, local, adverse direct effects; negligible, local, long-term, adverse indirect effects; and minor, local, short-term, adverse cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
NPS Wetlands	Minor, short-term, local, adverse direct effects; negligible, long-term, local, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Floodplains	Negligible long-term, local, and adverse direct effects; none for indirect (negligible impacts); and cumulative of negligible, long-term, local, and adverse	No direct, indirect, or cumulative effects (negligible impacts)
Farmlands	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Threatened and Endangered Species	No direct, indirect, or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Migratory Birds	No direct effects (negligible impacts); minor, local, short- and long-term adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)

Table 2. Summary Impacts of the Alternatives

Impact Topic	Build Alternative	No-Build Alternative
Invasive Species	Minor, local, short-term, beneficial direct effects; minor, local, short- and long-term adverse indirect and cumulative effects	Minor, long-term, local, adverse direct effects; no indirect effects (negligible impacts); and minor, long-term, local, adverse cumulative effects
Noise	Minor, localized, short-term direct and cumulative effects during construction; no indirect effects (negligible impacts).	No direct, indirect, or cumulative effects (negligible impacts)
Air	Minimal, localized direct effects during construction; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Energy/Mineral Resources	Negligible, short-term direct effects; negligible, long-term indirect effects; and no cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Visitor Use and Experience/Recreation*	Minor, long-term beneficial direct and indirect effects and no cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Human Health and Safety*	Negligible, short-term direct effects; minor, long-term indirect effects; and minor, long-term adverse and beneficial cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Visual Resources*	Minor, short-term and long-term, beneficial direct effects and cumulative effects; no indirect effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Park Operations*	Minor, long-term direct effects; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Soils*	Minor, short-term direct effects; no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Vegetation*	Minor, short-term, local, beneficial direct effects; minor, local, long-term, adverse indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)
Wildlife*	Negligible, short-term direct effects and no indirect or cumulative effects (negligible impacts)	No direct, indirect, or cumulative effects (negligible impacts)
Short Term Uses Versus Long Term Sustainability*	No direct effects (negligible impacts); minor, long-term, beneficial indirect and cumulative effects	No direct, indirect, or cumulative effects (negligible impacts)

*= NPS required analysis

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. Types of Effects: Direct, Indirect, and Cumulative Effects

The CEQ Regulations *for Implementing the Procedural Provisions of the NEPA*, in the CFR, specifically 40 CFR §§1500-1508, requires that not only direct impacts, but indirect and cumulative impacts (ICI) also be evaluated for the "reasonably foreseeable" future (40 CFR 1508.8). For purposes of

this analysis, the "reasonably foreseeable" future is considered the two year horizon, as the construction period would be less than a year for the build alternative. According to 40 CFR 1508.8, effects include both direct effects and indirect effects. Effects and impacts as used in these regulations are synonyms. Effects include ecological (the effects on natural resources and functioning of affected ecosystems), historic, cultural, economic, social, or health effects, whether direct, indirect, or cumulative. Effects can be both beneficial and detrimental, even if the agency believes that the effect will be overall beneficial.

Direct, indirect, and cumulative effects can be defined as follows:

- **Direct effects** are caused by, and coincide in time and place, with the action.
- **Indirect effects** are caused by the action and are later in time or farther removed in distance but are still reasonably foreseeable (40 CFR 1508.8(b)). Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
- **Cumulative Effects** are the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The direct, indirect, and cumulative effects of the proposed action are presented in the subsections that follow. To effectively analyze indirect effects, the potentially affected area has been extended outside the immediate project area. The impacts analysis focuses on the immediate project area and includes the area extending west to the Ocmulgee River and east to I-16. The future extension of the Heritage Trail to the Otis Redding Bridge (Otis Redding Loop Trail) is the only other project in the two year time horizon other than the existing minimal maintenance activity. Other past projects, such as the I-16 project or

installation of the culvert in W1, occurred enough in the past that the proposed Walnut Creek Extension should not have interactive impacts with these past projects. Therefore, the only past projects evaluated in the cumulative impact sections are the minimal maintenance activity and the Otis Redding Loop Trail.

Indirect and cumulative effects analyses have not been included for the following resources: historic markers; section 4(f) applicability; public involvement; construction/utilities; and USTs/hazardous waste. For all NPS required resources, NPS specific criteria are analyzed and addressed in Appendix D – NPS Impairment.

B. NPS Methodology

The policies and procedures by which the NPS carries out its responsibilities under the National Environmental Policy Act (NEPA) are based on Director's Order #12 from the NPS Office of Policy. Director's Order #12 defines the approach to environmental analysis, public involvement, and making resource-based decisions concerning the Nation's parks. Table 3 below defines all impacts (negligible, minor, moderate and major) as well as the duration threshold applicable to each. These impacts are defined based on Impact Topic and provide guidance for each section of the NEPA document.

C. Affected Environment and Effects on the Economic and Social Environment

1. Land Use Changes

Approximately one mile of the trail would be located on the OCMU. This portion of the OCMU is currently undeveloped and reserved for recreational uses. The remaining section of the trail, near the Otis Redding Bridge, would be constructed on land jointly owned by the City of Macon and Norfolk Southern Railroad Company with easements granted to Georgia Power Company and Macon Water Authority. This portion of the trail on non-NPS land is small.

Build Alternative

Direct Effects

Implementing this alternative would be consistent with current land use planning. The City of Macon has granted utility easements for sewer and power lines within a portion of the proposed project corridor; while Norfolk Southern has a railroad bridge on its property. The non-NPS landowners of the project area agree with the land use expansion to include recreation, and there would be no change in land ownership. Because the project area is mostly wooded, the use of gravel for the trail extension would be more compatible with existing land use than that of concrete or asphalt. However, asphalt or concrete would still be compatible with the park setting. Thus, direct impacts from implementing this alternative would be beneficial as the land would be used for its intended purpose of recreation on NPS land, as well as being beneficial to the visitors through increased accessibility to the park in order to experience the wealth of historical and archaeological resources preserved within the park. Since the non-NPS landowners agree with the change and change in landownership would not occur, no conflict exists on the small trail portion (approximately 0.2 mile) on non-NPS land. Direct effects to land use would be minor, beneficial, and long-term.

Indirect Effects

Most of the 1.2 mile trail extension would occur on OCMU land planned for recreation. The proposed alternative does not include other amenities for the trail, such as bathrooms or visitor centers and would not induce changes to the areas of the park in which historical or archaeological resources are preserved. Since the City of Macon and the OCMU already have many trails, a small trail expansion without further amenities would not expect to induce land use changes. Further, because no landownership, zoning, or plans would change, the project would not encourage other land use changes. Thus, there would be no indirect effects (negligible impact) to land use.

Table 3. NPS Methodology[3]

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Land Use Changes	Impacts to the land uses would be barely detectable with neither adverse nor beneficial consequences.	Impacts on land uses would be measureable but require minimal mitigation to address.	Impacts on land uses would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on land uses would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.
Economics	Impacts to the economy would be barely detectable with neither adverse nor beneficial consequences.	Impacts on the economy would be measureable but require minimal mitigation to address.	Impacts on the economy would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on the economy would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.

[3] Please note that a methodology section is a NPS requirement.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Community Cohesion	Impacts to the community cohesions would be barely detectable with neither adverse nor beneficial consequences.	Impacts on community cohesion would be measureable but require minimal mitigation to address or would be slightly beneficial.	Impacts on community cohesion would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful or the impacts would be moderately beneficial.	Impacts on community cohesion would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful or the impacts would be extremely beneficial.	*Short-term:* Effects would extend less than two years beyond the time of project implementation. *Long-term:* Effects would likely last more than two years and may continue beyond the lifetime of the project implementation.
Relocations	No relocations would be required.	One relocation would be required and minimal mitigation would be necessary.	Several relocations would be required and would require mitigation to adequately address the issue. Mitigation may not appease all of those involved.	A substantial number of relocations would be required and would require substantial mitigation to adequately address. Mitigation may not appease those being relocated.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Churches and Institutions	No churches and institutions are located within the project area, or those located within the project area would be unaffected by project implementation.	Churches and institutions within the project area would be minimally impacted by minor inconveniences as a result of project construction.	Churches and institutions within the project area would be impacted during or post construction by changes in accessibility or loss of property not resulting in changes to the function of the church or institution's facilities. Some mitigation may be required.	Churches and institutions would lose portions or all of their property as a result of project implementation, facility function would be compromised and mitigation would be required.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Community Impacts/ Environmental Justice	There would be no community impacts or environmental justice concerns as a result of project implementation	Minor changes to the community function or demographics may occur, but would not alter or negatively affect the community.	Changes to the community function or demographics would occur; however, mitigation efforts would maintain the sense of community and overall function.	Changes to the community function or demographics would occur; however, mitigation efforts would not likely ameliorate the changes brought about as a result of project implementation.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Public Involvement	NA	NA	NA	NA	NA
Cultural Resources	Impact is barely detectable with neither adverse nor beneficial consequences. The determination of effect for §106 would be no adverse effect.	Alteration of a feature(s) would not diminish the overall integrity of the resource. The determination of effect for §106 would be *no adverse effect.*	Alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for §106 would be *adverse effect.* A memorandum of agreement (MOA) is executed among the National Park Service and applicable state or tribal historic preservation officer and, if necessary, the Advisory Council on Historic Preservation in accordance with 36 CFR 800.6(b). Measures identified in the MOA to minimize or mitigate adverse impacts reduce the intensity of impact under NEPA from major to moderate.	Alteration of a feature(s) would diminish the overall integrity of the resource. The determination of effect for §106 would be adverse effect. Measures to minimize or mitigate adverse impacts cannot be agreed upon and the National Park Service and applicable state or tribal historic preservation officer and/or Advisory Council are unable to negotiate and execute a memorandum of agreement in accordance with 36 CFR 800.6(b).	*Short-term:* Impact would extend beyond the time of project implementation actions, but would not last more than two years. *Long-term:* Impact would likely last more than two years and may continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Water Quality	Any impacts to water quality or aquatic biota would be barely detectable with neither adverse nor beneficial consequences.	Effects to water quality or aquatic biota would be measurable but would require minimal mitigation to address.	Effects to water quality or aquatic biota would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to water quality would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
Waters of the U.S.	Any impacts to waters of the U.S. would be barely detectable with neither adverse nor beneficial consequences.	Effects to waters of the U.S. would be substantive but would require minimal mitigation to adequately address.	Effects to waters of the U.S. would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to waters of the U.S. would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
NPS Wetlands	Any impacts to NPS wetlands would be barely detectable with neither adverse nor beneficial consequences.	Effects to NPS wetlands would be substantive but would require minimal mitigation to adequately address.	Effects to NPS wetlands would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to NPS wetlands would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.
Floodplains	Any impacts to floodplain would be barely detectable with neither adverse nor beneficial consequences.	Effects to floodplain would be substantive but would require minimal mitigation to adequately address.	Effects to floodplain would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Effects to floodplain would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Threatened and Endangered Species	The action would cause barely detectable effect on protected wildlife or invertebrate species or critical habitat; the likely determination in Section 7 consultation would be *no effect*.	The action would be expected to result in readily discountable effects on a protected wildlife or invertebrate species or critical habitat (i.e., extremely unlikely to occur and not able to be meaningfully measured, detected, or evaluated), or it would be completely beneficial. The likely determination in Section 7 consultation would be not likely to adversely affect.	The action would result in a direct or indirect adverse effect on a protected wildlife or invertebrate species or critical habitat, and the effect would not be discountable. The likely determination in Section 7 consultation would be likely to adversely affect.	The action would result in a direct or indirect adverse effect on a protected wildlife or invertebrate species or critical habitat, and the effect would not be discountable. The likely determination in Section 7 consultation would be likely to adversely affect.	*Short-term:* Recovery takes less than one year. *Long-term:* Recovery takes longer than one year.
Invasive Species	Any impacts to invasive species would be barely detectable with neither adverse nor beneficial consequences	Some spread of invasive species in areas already infested or introductions are easily and cheaply removed.	Spread of invasive species to new areas. Mitigation efforts would be necessary to offset adverse effects and would likely be successful.	Spread of invasive species to multiple and/or large new areas. Extensive mitigation would be necessary to offset any adverse impacts, and the success of which could not be guaranteed.	*Short-term:* Recovery takes less than one year. *Long-term:* Recovery takes longer than one year.
Noise	Effects to noise would be barely detectable with neither adverse nor beneficial consequences	Increases in noise would be localized and measurable and require minimal mitigation to address.	Increases in the noise environment would be substantial and require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Increases in the noise environment would be substantial and of serious concern, would require substantial mitigation.	*Short-term:* Recovery takes less than one year following project implementation. *Long-term:* Recovery takes longer than one year following project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Air	Effects to air quality, specifically increases in criteria air pollutants and impacts to visibility, would be barely detectable, with no adverse or beneficial consequence.	Increases in emissions of criteria air pollutants or impacts to visibility or sensitive individuals from smoke particulates, would be localized at one or a few sites, or repeatedly at one site, would be brief lasting for 3 hours or less and may require minimal mitigation to keep within acceptable limits.	Increases in criteria air pollutants or impacts to visibility or sensitive individuals from smoke would occur at a number of locations, or repeatedly in one location and may continue for more than 3 hours. Effects would require mitigation to remain within acceptable limits and the required mitigation would likely be successful.	Increases in criteria air pollutants or impacts to visibility or sensitive individuals from smoke, would occur at many locations, or frequently at one or more locations, would occur over a number of periods of 3 hours or longer, would require substantial mitigation to reduce to acceptable levels, and the required mitigation might not be successful.	*Short-term:* Recovery takes less than seven days. *Long-term:* Recovery takes longer than seven days.
Visitor Use and Experience/Recreation	Impacts on visitor use, experience, and recreation would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visitor use, experience, and recreation would be measureable but require minimal mitigation to address.	Impacts on visitor use, experience, and recreation would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visitor use, experience, and recreation would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Occurs only during the project implementation. *Long-term:* Occurs after the project implementation.
Human Health and Safety*	Impacts on human health and safety would be barely detectable with neither adverse nor beneficial consequences.	Impacts on human health and safety would be measureable but require minimal mitigation to address.	Impacts on human health and safety would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on human health and safety would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Visual Resources*	Impacts on visual resources would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visual resources would be measureable but require minimal mitigation to address.	Impacts on visual resources would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visual resources would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Park Operations*	Impacts on visual resources would be barely detectable with neither adverse nor beneficial consequences.	Impacts on visual resources would be measureable but require minimal mitigation to address.	Impacts on visual resources would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on visual resources would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Soils*	Impacts on soils would be barely detectable with neither adverse nor beneficial consequences.	Impacts on soils would be measureable but require minimal mitigation to address or would not be adverse.	Impacts on soils would be substantial and would require some level of mitigation to adequately address, but the required mitigation would likely be successful.	Impacts on soils would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Vegetation*	Impacts on vegetation would be barely detectable with neither adverse nor beneficial consequences.	Impacts on vegetation would be measureable but require minimal mitigation to address or could be considered beneficial.	Impacts on vegetation would be substantial and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, impacts could be substantially beneficial.	Impacts on vegetation would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful. Threatened or endangered plant species may be of concern. Conversely, invasive species could be removed and replaced with native species.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

Impact Topic	Negligible Impact	Minor Impact	Moderate Impact	Major Impact	Duration Threshold
Wildlife*	Impacts on wildlife would be barely detectable with neither adverse nor beneficial consequences.	Impacts on wildlife would be measureable but require minimal mitigation to address or could be considered beneficial.	Impacts on wildlife would be substantial and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, impacts could be substantially beneficial.	Impacts on wildlife would be substantial and of serious concern, would require substantial mitigation to adequately address, and the required mitigation might not be successful. Threatened or endangered species may be of concern. Conversely, previously degraded habitat could be restored and substantially beneficial.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.
Short Term Uses Versus Long Term Sustainability *	Short term uses would have no impact on long term sustainability.	Short term use may affect long term sustainability, but minimal adverse affects would occur or overall sustainability could be slightly improved.	Short term use affects long term sustainability and if the affect is adverse, then mitigation efforts would be required and would likely be successful at addressing the concerns. Conversely, short term use could improve the overall sustainability.	Short term use would affect long term sustainability in substantial ways either detrimentally or in a manner that would achieve a more certain long term sustainability.	*Short-term:* Effects would extend through project construction. *Long-term:* Effects would continue beyond the lifetime of the project implementation.

NA = Not applicable
Source: NPS Office of Environmental Policy Directors Order #12
* = NPS requirement.
Note: For all resources, the context of an impact is defined by the geographic extent of the setting in which the impact would take place, and in general varies from site-specific or local to regional. Localized impacts are those that affect the resource area only on the project site or its immediate surroundings, and would not extend into the rest of the region.

Indirect Effects

Most of the 1.2 mile trail extension would occur on OCMU land planned for recreation. The proposed alternative does not include other amenities for the trail, such as bathrooms or visitor centers and would not induce changes to the areas of the park in which historical or archaeological resources are preserved. Since the City of Macon and the OCMU already have many trails, a small trail expansion without further amenities would not expect to induce land use changes. Further, because no landownership, zoning, or plans would change, the project would not encourage other land use changes. Thus, there would be no indirect effects (negligible impact) to land use.

Cumulative Effects

It can be assumed that the area would continue to be managed and owned by current landowners in a manner consistent with existing land uses including the OCMU. This trail extension for recreational purposes is the planned NPS land use and is also compatible with non-NPS land uses. The Otis Redding Loop Trail northwest of the proposed project to the Otis Redding Bridge will be constructed in 2012, and in staying consistent with current land use plans, it will produce a negligible change. The addition of the Otis Redding Loop Trail would increase accessibility and recreational opportunities, producing beneficial impacts to land use. No other ongoing activities or planned projects would affect land use in the project area. Thus, cumulative effects would be minor, beneficial, and long-term and are compatible with the intended land uses.

Conclusion[7]*:*

Under this alternative, the proposed trail expansion would support the area's planned use of recreation. Thus, direct and cumulative effects to this resource from implementing this alternative would be beneficial, and there would be no indirect impacts (negligible impact).

No-Build Alternative

Direct Effects

Under this alternative, the trail extension would not occur, which is a missed opportunity to utilize this area for its intended purpose of recreation and improve visitor use of the historical and archaeological resources throughout the OCMU. However, as it is currently not used for recreation, implementing this alternative would only represent a continuation of the current compatible land uses and ownerships of mainly vegetated areas. Thus, there would be no direct effects (negligible impact) to land use.

Indirect Effects

Without direct impacts, there are no indirect effects (negligible impact) since this alternative does not introduce new activities.

Cumulative Effects

The Otis Redding Loop Trail to the Otis Redding Bridge is consistent with land use policy to improve visitor use and recreation in the OCMU. Although the no-build alternative would be compatible with existing land uses, it would not complement the benefits of improved visitor use in the OCMU derived from the Heritage Trail extension to the Otis Redding Bridge presented by the Otis Redding Loop Trail. This represents a lost opportunity but also no cumulative effects (negligible impact), as no changes in land use would occur.

Conclusions

Under this alternative, the proposed trail extension would not occur. Thus, this alternative would proceed with current and compatible land uses, producing no direct, indirect, or cumulative effects (negligible impact).

2. Economic

The proposed project site is located in eastern Bibb County, Georgia and lies entirely within in the City of Macon. The majority of the project corridor is located within the OCMU. In 2003, the Ocmulgee

River Basin Management Plan was released which highlights the regional significance of the Ocmulgee River Plain Corridor. A very active local group, the Macon Blueprints for Successful Communities agreed that the vision of the committee is to increase understanding and raise awareness of the Ocmulgee River and the adjacent cultural and natural resources and is attempting to have it designated a National Heritage Corridor (NHC). As part of the NHC, a public-private effort has been underway to develop the Ocmulgee Heritage Trail with the idea of it serving to promote economic development that incorporates the natural, cultural, and historic resources of the Ocmulgee River corridor (Bibb County Comprehensive Plan). The OCMU was established on December 23, 1936 and today the park contains 700 acres of forested uplands, open fields, year-round wetlands, and thickly wooded river floodplain. The OCMU Main Unit is open to visitors year round and the Lamar Mounds and Village Unit can be visited by special use permit. The OCMU has fees only for special events and is typically open to the public free of charge. In 1995, the OCMU had 114,544 visitors, creating a significant tourist draw for the county (Bibb County Comprehensive Plan).

Build Alternative

Direct Effects

Due to the low number of construction jobs expected to be generated by this project and the project's estimated one million dollar construction cost, the construction of the proposed project would minimally stimulate the local economy. Thus only negligible, short- term direct economic effects would occur as a result of the proposed project.

Indirect Effects

No induced economic growth, such as new businesses, would be expected given the lack of amenities and concessions for such a small trail expansion, as well as the small increase in labor for construction and maintenance described in the previous section. Further, since land ownership would not change, neither would the tax base. However, the additional visitor spending attributable to this proposed project would occur but be negligible due to the small size of the new trail, the existence of approximately

five miles of trails within the parks currently available for recreation, the fact that park activities are generally at no cost to visitors, and there are no trail-dependent businesses and employment, such as concession stands, as part of the trail expansion. Therefore, indirect effects would be negligible.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. The continuation of maintenance activities on the five miles of existent OCMU trails along with the City of Macon trails represents a negligible additive cost. No other proposed projects in the area fit the time-frame and types of economic impacts – such as short-term construction jobs – of the Walnut Creek Extension to have interactive effects. As discussed above, the incremental contribution of the proposed trail extension to economic resources in the area is negligible because of its small size. Therefore, cumulative effects would be negligible.

Conclusion

The project would represent a small, temporary employment and spending increase for construction and maintenance. Direct, indirect, and cumulative effects would be negligible.

No-Build Alternative

Direct Effects

Under this alternative, trail extension with its related jobs and spending would not occur. Thus, there would be no direct effects (negligible impact).

Indirect Effects

Without new spending or economic activities, there would be no indirect effects (negligible impacts).

Cumulative Effects

Under this alternative, the proposed extension of the trail would not occur as well as any related jobs or spending, which would be missed opportunity for limited economic activity. The limited maintenance of local trails and the eventual construction of the Otis Redding Loop Trail would produce impacts negligible to the City of Macon's economic resources. Since the proposed project extension would not occur and no direct or indirect effects would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on the local economy to this alternative.

Conclusion

As the proposed trail extension would not occur, neither would the associated expenditure and job creation. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Community Cohesion

Because the proposed project is a small extension of a trail on predominantly government-owned land, it would constitute a small additional recreational opportunity. The potential recreational opportunity mirrors one presently offered at OCMU in close proximity to the proposed project. Consequently, the trail extension would not represent a completely original recreational opportunity to a community lacking in recreational opportunities. Furthermore, the proposed project would be open to the public and would not alter community cohesion, especially as landownership would not change.

Build Alternative

Direct Effects

The proposed project would not introduce new recreational opportunities to a community lacking in recreational opportunities, but would extend the existing trail network providing access to new areas of the OCMU. Only minor, beneficial, long-term direct effects would occur as a result of the minor increase in recreational opportunities and the expanded accessibility of the OCMU as a result of the proposed project.

Indirect Effects

Alterations to the existing trail network would not induce changes on the existing community cohesion. Therefore, indirect effects would not be expected as a result of the proposed project or would be negligible.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Therefore, cumulative effects would be minor, beneficial and long-term.

Conclusion

The project would have minor, beneficial, long-term direct and cumulative effects as a result of the expanded trail network and increased accessibility of portions of the OCMU. No indirect effects (negligible impact) on community cohesion are expected as a result of the proposed project.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the accessibility to the OCMU would not be altered from the existing condition; thus, there would be no direct effects (negligible impact), as community cohesion would not be altered.

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-

build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on community cohesion to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in community cohesion would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

4. Relocations

Relocations would not be necessary for project implementation. The proposed project would be constructed predominantly on existing NPS lands for a distance approximately one mile, with the balance of the project length (approximately 1,200 linear feet) constructed on lands jointly owned by the City of Macon and Norfolk Southern Railroad Company, with easements granted to Georgia Power Company and Macon Water Authority. Neither residential nor commercial structures exist within the proposed project corridor. No further assessment of these resources is required.

The project would not require a federal land transfer but it would require a right of entry (ROE) for contractors funded by the FHWA TE program to construct the proposed project on NPS land. Discussion about coordinating among GDOT, FHWA and NPS occurred during a meeting on April 5, 2012 (See Appendix D). Because the trail would be maintained by NPS, however, coordination between the NPS Regional Office and the Park Superintendent determined a Special Use Permit would be issued granting access for the purposes of trail construction. Permit issuance would be issued by the park upon completion of the NEPA process.

Build Alternative

Direct Effects

The proposed project would occur within existing NPS, City of Macon, and Norfolk Southern Railroad property and would not require any relocations. No direct (negligible impact) effects would occur as a result of the proposed project.

Indirect Effects

Construction of the proposed trail project is not expected to induce growth which could spur relocations. No indirect effects (negligible impact) are expected to relocations as a result of the proposed project.

Cumulative Effects

No direct or indirect effects are expected on relocations; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on relocations.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed. The no-build alternative would not require relocations to occur; thus, there would be no direct impacts (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect impacts (negligible impact).

Cumulative Effects

No direct or indirect effects are expected on relocations; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on relocations.

5. Churches and Institutions

As previously discussed, the majority of the proposed project would be located on NPS and the balance of the project on utility right-of-way land, no churches or other institutions exist within or adjacent to the project area that would potentially be impacted by its implementation.

Build Alternative

Direct Effects

No churches or institutions were identified within the proposed project area; therefore, there would be no direct effects (negligible impact).

Indirect Effects

No churches or institutions were identified within the area surrounding the proposed project area which may experience indirect effects from implementation of the proposed project; therefore, there would be no indirect impacts (negligible impact).

Cumulative Effects

No direct or indirect effects are expected on churches or institutions; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on churches or institutions.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed. No churches or institutions were identified within the proposed project area that would be affected by not implementing the proposed project; thus, there would be no direct effects (negligible impacts).

Indirect Effects

No churches or institutions were identified within the area surrounding the proposed project area which may experience indirect effects from not completing the proposed project; therefore, there would be no indirect effects (negligible impacts).

Cumulative Effects

No direct or indirect effects are expected on churches or institutions; therefore, no cumulative effects (negligible impact) are expected either.

Conclusion

The proposed project would have no direct, indirect, or cumulative effects (negligible impact) on churches or institutions.

6. Community Impacts/Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, signed by the President on February 11, 1994 directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Minority persons include citizens or lawful, permanent residents of the U.S. who are African-American, Hispanic, Asian-American, American Indian or Alaskan Native. Low income persons are defined as those whose median household income is below the U.S. Department

of Health and Human Services poverty guidelines. Minority or low income communities are groups of minority or low income persons who live in reasonably close proximity to one another. This analysis serves to identify populations affected by the project and make conclusions as to whether disproportionately high and adverse effects would occur.

In order to identify the demographic populations in the Study Area, the US Environmental Protection Agency (USEPA) EJ Geographic Assessment Tool (http://www.epa.gov/compliance/whereyoulive/ejtool.html) was used to perform an initial analysis to identify minority and low-income populations along the project corridor, and which is currently known as the EJ View (http://epamap14.epa.gov/ejmap/entry.html). This tool utilizes data from the 2000 US Census along the digitized Study Area corridor and compares the data for the corridor with County and State data. Although the project area is located on undeveloped NPS lands isolated between Interstate 16 and the Ocmulgee River, the Study Area consists of a 0.5-mile buffer surrounding the project corridor to identify potential EJ populations that may be located across the river from the project or in the area surrounding the project corridor. Columns one, two, and four of Table 4: Low-Income/Minority/Hispanic Percent Composition in Study Area, details the low-income, minority and Hispanic populations in the Study Area, Bibb County, and Georgia, respectively. Columns three and five provide the percent difference between the Study Area and the reference populations of Bibb County and Georgia, respectively.

Table 4: Low-Income / Minority / Hispanic Percent Composition in Study Area

	Low-Income / Minority / Hispanic Percent Composition (No. persons) in Study Area				
	1	**2**	**3**	**4**	**5**
	Study Area (total pop. 915)	**Avg. in Bibb County** (total pop. 153,887)	**% Diff.:** Study Area vs. Bibb County [1]	**Avg. in GA (total pop.** 8,186,453)	% Diff.: Study Area Avg. vs. GA [1]

Environmental Justice Criteria	**Low-Income** 55.8%[2] (483) **Minority** 87.3%[3] (799) **Hispanic** 1% (10)	**Low-Income** 19.1%[2] (28,370) **Minority** 50.4%[3] (77,559) **Hispanic** 1.1% (1,635)	**Low-Income** 192% Above **Minority** 73% Above **Hispanic** 9% Below	**Low-Income** 12.6%[2] (1,033,793) **Minority** 37.3%[3] (3,053,547) **Hispanic** 5.3% (433,833)	**Low-Income** 342.8% above **Minority** 134% Above **Hispanic** 81.1% Below

(1) Percent Difference between Study Area and Bibb County Population; and Study Area and the State of Georgia Population. [(|Reference Population Percentage –Study Area Average Percentage|)/ (Reference Population Percentage)] x 100%

(2) Low-income persons are defined as those whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines. This value is calculated based on numbers of persons below poverty divided by the total population, instead of the total population for whom poverty was established. This is a data limitation provided by USEPA's EJ Geographic Assessment Tool and approximates the percentage of persons in poverty.

(3) Data note: Minority data do include those who identify themselves as Hispanic and may belong to any race, including white. The Hispanic population is not additive in these numbers of race breakdown, since those who identify themselves as Hispanic can belong to any race.

The Study Area percentage of low-income and minority populations are higher than the reference populations of the county and state, and the Study Area percentage of Hispanic population is lower than the reference populations of the county and state.

Based on the analytical data, there are low-income and/or minority individuals living within the Study Area, however, no communities comprised of minorities or low-income populations are located along the project corridor as the project is located on NPS land and utility right-of way. There would be no displacement of low-income or minority residents and no limitation in access to low-income or minority residences as a result of this project, and all users of the trail would realize the benefits of the proposed trail.

No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23, no further EJ analysis is required

7. Public Involvement

During the course of project coordination meetings with the participating agency, FHWA, and the cooperating agency, NPS, it was agreed that a Public Information Open House is not necessary for the approval of the Draft EA (Appendix B and Appendix E). Following completion and release of the Final EA, NPS will make the EA available on its PEPC website for 30 days. Due to the low controversy potential of the project, it was decided by the participating agencies at the March 4, 2008 Environmental Kickoff Meeting (See Appendix E) that a Public Hearing Open House would be held after approval of the DEA in order to satisfy GDOT and FHWA's public involvement requirements, Any comments concerning this EA should be addressed to:

Mr. Glenn Bowman, P.E.
State Environmental/Location Engineer
Georgia Department of Transportation
3993 Aviation Circle
Atlanta, GA 30336

or

Mr. Rodney N. Barry, P.E.
Division Administrator
Federal Highway Administration
Atlanta Federal Center
61 Forsyth Street, S.W.
Suite 17 T100
Atlanta, GA 30303-3104

After review of comments received during the comment period for the public meeting and any comments received from the OCMU newsletter article, a decision will be made by the responsible officials concerning which alternative will be selected.

D. Affected Environment and Effects on the Cultural Environment

1. Introduction

In compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966 and amendments thereto as well as the Archaeological Resources Protection Act (ARPA), 16 USC § 470aa *et*

seq. and Native American Graves Protection and Repatriation Act (NAGPRA), 25 USC § 3001; the proposed project has been surveyed for archaeological and historic resources as described in the next section, especially those on or eligible for inclusion in the National Register of Historic Places (NRHP). The purpose of the survey was to locate, identify, and evaluate the significance of any historic and archaeological resources within the proposed project corridor. The survey boundary and methodology were established using the *GDOT/ FHWA Cultural Resource Survey Guidelines*. These guidelines were established as a result of past interaction with the Georgia State Historic Preservation Officer (SHPO) and his staff, and were agreed upon by the FHWA and the SHPO.

The APE (Area of Potential Effect), as defined in 36 CFR 800.16(d), is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties if any such properties exist. Based on the nature and the scope of the undertaking, the guidance in the *GDOT/FHWA Cultural Resources Survey Guidelines*, and past experience with similar projects, GDOT has evaluated and defined the APE for this proposed project. The area of potential effects consists of the project view shed and the proposed right-of-way of the proposed project, within which all construction and ground disturbing activity would be confined.

In addition to the Georgia SHPO, other potential consulting parties were identified based on the nature of the undertaking and the guidance in the GDOT/FHWA Cultural Resource Survey Guidelines. The other potential consulting parties invited to participate in the Section 106 process include the Middle Georgia Regional Development Center, Georgia SHPO, Indian Tribes, Historic Macon Foundation, National Park Service-Ocmulgee National Monument, and the Bibb County Commission; all of which were contacted for assistance in identifying known historic resources. In addition, a search of the Georgia Archaeological Site Files was conducted. The consulting parties were informed of efforts to identify historic properties through existing information and of those results. They were asked to provide information on any unidentified listed or eligible NRHP properties within the proposed project's area of potential effects (APE) by letter dated July 20, 2009. The responses received are included in the history

special report (Environmental Services, Inc., 2009b). Section 106 consultation with Tribal Partners was transmitted by email dated August 21, 2012 (Appendix B). One response from the Cherokee Nation deferring to the Muscogee and Seminole Nations regarding this project was received September 14, 2012 (Appendix B); no other responses were received during the 30 day comment period.

2. Historic and Archaeological Resources

a) Historic Resources

Existing information on previously identified historic properties was evaluated to determine if any are located within the APE of this undertaking. This review included NRHP listed properties, pending NRHP nominations, National Historic Landmarks, and the updated Georgia Historic Bridge Survey (GHBS). As a result of these efforts, five NRHP listed properties were identified within a mile of the proposed project: the Macon Railroad Industrial District; Central City Park Bandstand; Luther Williams Field; the OCMU; and the Railroad Overpass at Ocmulgee (Figure 3-1). The Department of Natural Resources (GDNR) Bibb County survey (1990) was also consulted and one additional historic resource was identified within the APE, the Central of Georgia Railroad Bridge. Because of the age of the GDNR Bibb County survey, the proposed project was field surveyed for potentially eligible historic properties that may not have been identified as part of the background research. As a result of these efforts, no additional properties considered eligible for listing in the NRHP were identified within the proposed project's APE and no additional properties 50 years or older were identified. The SHPO concurred with the findings in the Historic Resource Survey Report on April 29, 2010 (Appendix B).

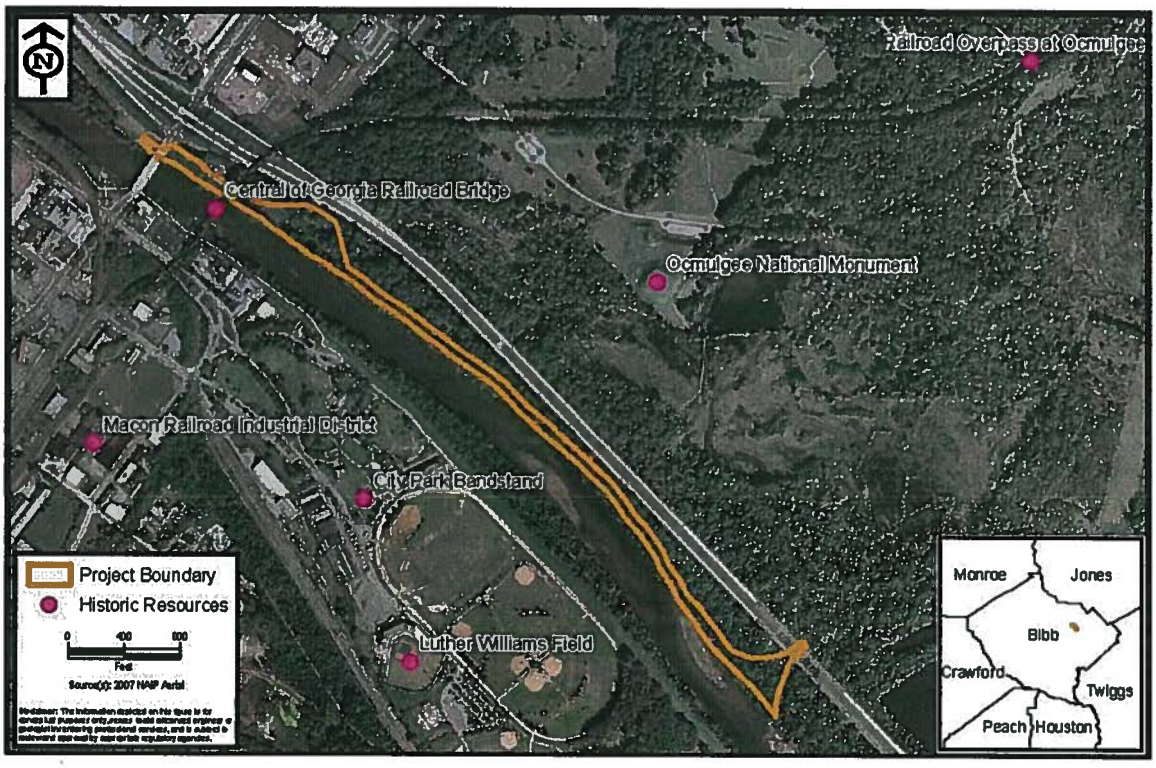

Figure 3-1. Cultural Resources in the Project Vicinity
Source: (ESRI, 2002)

Macon Railroad Industrial District

The Macon Railroad Industrial District was listed on the National Register in 1987. It is comprised of late 19th and early 20th century industrial, commercial, warehouse, and railroad buildings and structures, including railroad trestles, tracks, bridges, and overpasses. The development of the district dates from the late 1830's when railroads came to Macon. Many of the 98 contributing buildings are brick and are related to the businesses and industries, as well as the railroad structures that continued to be expanded and altered over the next 100 years. The district possesses significance at the local level under Criterion A for its contributions to the development of transportation infrastructure, commerce, and industry in Macon. The district is significant under Criterion C in terms of architecture for its unsurpassed collection of late 19th and early 20th century railroad, industrial, commercial, and warehouse buildings, including the 1916 Macon Terminal.

The boundary of the NRHP district is the area around Broadway, 5th, 6th, and 7th Streets and Central of Georgia, Southern, and Seaboard Railroad tracks. The boundary contains all NRHP qualifying characteristics and features of the district.

Central City Park Bandstand

The Central City Park Bandstand was nominated for the NRHP in 1972 as a significant architectural and historic structure. This property was evaluated for eligibility for listing under Criterion C. Built between 1871 and 1887, the hexagonally-shaped, wooden Central City Park Bandstand building is recognized by the National Park Service as one of the few of its kind remaining in the United States, possessing significance at the local, state, and national level. The NRHP boundary of the bandstand includes only the structure.

Luther Williams Field

Luther Williams Field is a baseball park and was listed on the NRHP in 2004 under Criterion A and C. The park possesses significance at the local level under Criterion A for its contribution as an entertainment and recreation facility, being the oldest ballpark in Georgia, and for hosting a minor league baseball team since it was constructed in 1929. The park is significant at the state level under Criterion C in terms of architecture for its representation of a typical baseball stadium in the early 20th century. According to the Georgia Department of Natural Resources Historic Preservation Division (GDNR-HPD), the park was constructed between 1929 and 1936. The NRHP boundary includes the ticket office, grandstand, and field.

Ocmulgee National Monument

The OCMU was established as a national park in 1941 and was listed on the NRHP in 1966 under Criterion A, C, and D. Archaeological investigations determined the occupation of this resource extended over 1,200 years. The national monument includes seven prehistoric mounds in the main village, evidence of an earthlodge, the Lamar mounds and trenches, prehistoric corn storage pits, the historic Dunlap house,

a Civil War fortification, the Visitors Center, and the fifty-foot flagstaff placed in honor of the establishment of the national park at Ocmulgee. The park boundaries include the Ocmulgee River to the south, several residential streets to the east (Plumtree Street, Fletcher Street, and Dunlap Street), and Emery Highway to the north.

Railroad Overpass at Ocmulgee

The Railroad Overpass at Ocmulgee was added to the NRHP in 1979. The resource is located within the OCMU property off of GA 49. According to the GDNR-HPD, the overpass was constructed around 1870. This structure was determined to be eligible under Criterion C. The property possesses a local level of significance as a transportation feature, and includes an arched tunnel providing access for a single vehicle. The property boundary consists of a 200-foot square, centered on the overpass, within the 200-foot railroad right-of-way. This square includes the overpass, railroad embankment, and highway approaches.

Central of Georgia Railroad Bridge

The Central of Georgia Railroad Bridge is in the proposed trail right-of-way. The Central of Georgia Railroad Bridge was identified in the GDNR Bibb County Survey (1990); however, both the Georgia SHPO on April 29, 2010 and the NPS on November 4, 2009 concurred with the historical resource survey report for this project, which recommended the Central of Georgia Railroad Bridge not eligible for inclusion in the NRHP (See Appendix B).

Build Alternative

Direct Effects

Macon Railroad Industrial District

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to part or all of the property. No feature that contributes to the NRHP

significance of this district would be removed. The Macon Railroad Industrial District would not be visually affected by project implementation. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project, located approximately 1,100 feet northeast of the district on the opposite side of the Ocmulgee River, would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Macon Railroad Industrial District.

Central City Park Bandstand

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to all or part of the property. No feature that contributes to the NRHP significance of this district would be removed because all work would occur outside of the NRHP eligible boundary. In addition, no features outside of the boundary contribute to the NRHP significance of the property. The Central City Park Bandstand is located approximately 1,200 feet southeast, and on the opposite side of the Ocmulgee River, from the proposed project. Therefore, The Central City Park Bandstand would not be visually affected by project implementation. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Central City Park Bandstand.

Luther Williams Field

There would be no acquisition of right-of-way from within the boundary of the listed or eligible NRHP property in order to implement the proposed project. Therefore, there would be no physical destruction of or damage to all or part of the property. No feature that contributes to the NRHP significance of this district would be removed because all work would occur outside of the NRHP eligible boundary. In addition, no features outside of the boundary contribute to the NRHP significance of the property. The field is located on the opposite side of the Ocmulgee River from the proposed project. Luther Williams Field would not be visually affected by project implementation. The property is located approximately 0.4 mile from the boundaries of the project location. The visual character of the surrounding area of the historic district has been compromised by modern commercial/residential/industrial development. The addition of the proposed project would not compromise the visual character of the district. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Luther Williams Field.

Ocmulgee National Monument

No features that contribute to the NRHP significance would be removed as a result of the proposed project. OCMU would not be visually affected by project implementation. The proposed walking trail would connect to an existing trail network within the park. The addition of the walking trail to those existing trails would not compromise the visual character of the mounds. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the OCMU.

The Railroad Overpass at Ocmulgee

No features that contribute to the NRHP significance would be removed as a result of the proposed project. The Railroad Overpass at Ocmulgee would not be visually affected by project implementation as this feature is approximately 4,400 feet from the southern end of the proposed project. The addition of the walking trail to those trails already present near the overpass would not compromise the visual character of the resource. Project implementation would not result in the introduction of atmospheric elements that diminish the integrity of the historic district's significant historic characteristics or features. There would be no atmospheric effect to this property as a result of project implementation. No direct effects (negligible impacts) would occur to the Railroad Overpass at Ocmulgee.

Indirect Effects

Macon Railroad Industrial District

No indirect effects (negligible impacts) to the Macon Railroad Industrial are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Central City Park Bandstand

No indirect effects (negligible impacts) to the Central City Park Bandstand are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Luther Williams Field

No indirect effects (negligible impacts) to Luther Williams Field are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation.

No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Ocmulgee National Monument

No indirect effects (negligible impacts) to Ocmulgee National Monument are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

The Overpass at Ocmulgee

No indirect effects (negligible impacts) to the Overpass at Ocmulgee are anticipated as a result of the proposed project implementation. No changes in traffic patterns would result from project implementation. No additional access to the existing transportation facilities would be provided and no existing access to the facilities would be removed.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having adverse cumulative effects on the NRHP eligible resources or contributing features, and if any of these scenarios were to occur, they would be unrelated to any action alternative from the proposed project. No cumulative effects (negligible impacts) would be expected to occur.

Conclusion

The proposed project would not alter the characteristics of any of the historic properties that qualified them for inclusion in or eligibility for the NRHP. The proposed project would not have direct, indirect, or cumulative effects (negligible impacts) on any of the historical resources identified within the APE. As such, the SHPO concurred with the findings in the Historic Resources Survey Report (See Appendix B – SHPO letter dated April 29, 2010) and a finding of No Historic Properties Affected for this project was issued in accordance with 36 CFR 800.4(d)(1) and signed by the SHPO on June 15, 2010 (See Appendix B).

No-Build Alternative

Direct Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no direct effects (negligible impacts) to historic resources identified within the project area.

Indirect Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no indirect effects (negligible impacts) to historic resources identified within the project area.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having adverse cumulative effects (negligible impacts) on the NRHP eligible resources or contributing features, and if any of these scenarios were to occur, they would be unrelated to any action alternative from the proposed project.

Conclusion

Under the no-build alternative, the proposed trail extension would not be built. No direct, indirect, or cumulative effects (negligible impacts) to historical resources would occur as a result of the no-build alternative.

Because of the importance of maintaining viewsheds to historic resources, the survey encompassed resources outside of the immediate project site. As a result of these efforts, five NRHP listed properties were identified within a mile of the proposed project: Macon Railroad Industrial District; Central City Park Bandstand; OCMU; Luther Williams Field; and Railroad Overpass at Ocmulgee (Figure 3-1). The Macon Railroad Industrial District was developed from 1844 to 1936 and once included commercial and industrial developments such as Dixie Works and Macon Cabinet Company. Built between 1871 and 1887, the hexagonally-shaped, wooden Central City Park Bandstand building was used for entertainment and recreational activities and is one of the few of its kind remaining in the US. The OCMU is a prehistoric monument with archaeological artifacts dating back over 1,200 years. Constructed between 1929 and 1936, the Luther Williams Field was an important recreation and entertainment facility for the African-American community of Macon as a center for cultural activities and social/cultural development. The Railroad Overpass at Ocmulgee was constructed around 1870 whose arched tunnel provided access for a single vehicle and was included in the NRHP as a significant transportation feature (Environmental Services, Inc., 2009b).

One additional site to the five NRHP listed sites, the Central of Georgia Railroad Bridge, is in the proposed trail right-of-way. However, using the Criteria of Eligibility, it was recommended that the bridge be considered ineligible for listing in the NRHP due to the likelihood that it was modified during 1912. If the bridge was modified in 1912, then the bridge is part of a historic railroad line but is not a significant historic resource itself (Environmental Services, Inc., 2009b). Both the Georgia SHPO on April 29, 2010 and the NPS on November 4, 2009 concurred with the history special report for this project, which contains this conclusion of ineligibility for the Central of Georgia Railroad Bridge (See Appendix B).

b) Archaeological Resources

The Walnut Creek Extension, PI# 0008986, has two project areas with regards to archaeological resources. One project area is a very small portion not owned by the NPS. This segment between the Otis Redding Bridge easterly to the Norfolk Southern Railroad was not archaeologically tested for this project because it had been previously surveyed in two sets of past projects. This area was subject to archaeological survey in 2000 as part of GDOT proposed projects NH-IM-16-1(92)(104)(131) and NH-IM-75-2(177) in Bibb County (I-16/I-75 Interchange Reconstruction); and again in 2002 as part of GDOT proposed projects FLF-540(16)(17) and NH-16-1(91) in Bibb County (Eisenhower Parkway). Neither survey located cultural resources within the project area shared with the Walnut Creek Extension. The SHPO concurred with the findings for both sets of projects on October 10, 2000, January 4, 2001 and July 3, 2003 (See Appendix B).

The remainder of the project is located on property owned and operated by the NPS as the OCMU. For this second project area, an archaeology survey was conducted between June 15 and June 19, 2009. The purpose of this survey was to locate, identify, and evaluate the significance of any archaeological resources within this project area that could be affected. A total of 39 shovel tests were performed along the length of the proposed corridor. All of the shovel tests were negative for cultural remains or artifacts. The proposed project corridor's alignment is set to run directly on top of the Ocmulgee Bottoms archaeological site. Shovel tests within the Ocmulgee Bottoms site were negative for cultural remains or artifacts. Soil core probes were extended within four shovel tests within the Ocmulgee Bottoms site in order to determine the amount of river sediment accumulation on top of the site. The soil probes determined that at least 1.7 meters (5.5 feet) of sediment covers the Ocmulgee Bottoms site. In its December 18, 2009 documentation, the Georgia SHPO stipulated that additional archeological investigation would be required if the project would involve the construction of a pedestrian bridge with bridge footers that could impact deeply buried archeological resources (Appendix B). At the time of the Draft EA the proposed project includes the construction of a bridge with footers. Therefore, Georgia

SHPO and NPS will be afforded the opportunity to review the proposed construction plans in order to evaluate the need for additional archeological survey within the areas of proposed bridge footer placement.

Build Alternative

Direct Effects

The proposed build alternative would be constructed over the approximately 0.62 mile long Ocmulgee Bottoms archaeological site. Archaeological field were unsuccessful at reaching the cultural layer and determined that approximately 5.5 feet of sediment is now on top of the Ocmulgee Bottoms archaeological site. Construction of the proposed footbridge is a potential concern; however, noting the depth to the cultural layer, bridge footings placed no deeper than 5.5 feet would not disturb any archaeological artifacts within the Ocmulgee Bottoms archaeological site. Therefore, the proposed project would not affect archaeological resources on or eligible for inclusion in the NRHP. NPS approved the current project design with regards to archeology per email on August 6, 2009, stating that if the construction of the final project does include the construction of the pedestrian bridge, the NPS requests a review opportunity of all engineering/design drawings and that as long as the footers go no deeper than 5.5 feet, there would be no archaeological issues. The SHPO concurred with the findings of the archaeological survey report on December 18, 2009 and stated that should it be decided that a bridge is necessary for the completion of the trail, additional testing may be required to determine if foot bridge placements would have any impact on the deeply buried archaeological site. NPS and SHPO would be offered the opportunity to review all of the engineering and design drawings prior to project implementation. If additional archaeological concerns arise as a result of these reviews, they would be addressed appropriately at that time.

Despite the extensive surveys, if any previously unknown cultural resources were to be discovered during the project implementation, the activities would stop, proper authorities would be contacted, and appropriate mitigation would be performed. With these steps in place, there would be no measurable, direct effects (negligible impacts) to cultural resources.

Indirect Effects

No indirect effects (negligible impacts) to archaeological resources would be expected as a result of the proposed build alternative.

Cumulative Effects

Archeological resources within the project area were not identified as a result of the large sediment loads that have deposited over the Ocmulgee Bottoms archaeological site. Due to the effective sealing in of artifacts by the sediment and the sites location within protected NPS lands, no cumulative effects (negligible impacts) to NRHP listed or eligible archaeological sites would be expected to occur as a result of the proposed project or the foreseeable action of others within the project's APE.

Conclusion

Based on the archaeological surveys from past projects west of the Norfolk Southern Railroad line on the non-NPS owned portion of the project area and the study performed on the NPS land; archaeological resources are absent down to 5.5 feet. Consequently, the archeology report concurred by the SHPO on December 18, 2009 agreed with the findings although the SHPO suggested that further testing may be required if the proposed pedestrian bridge was constructed due to the potential for impacting the deeply buried archaeological resources (Appendix B). The NPS concluded in an e-mail dated August 6, 2009 that there were no archaeological issues as long as the construction of the proposed pedestrian bridge does not require footers deeper than 5.5 feet (Appendix B). Therefore, there are not expected to be any measurable direct, indirect, or cumulative effects (negligible impacts) to archaeological resources.

No-Build Alternative

Direct Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no direct effects (negligible impacts) to the Ocmulgee Bottoms archaeological site or any other potential archaeological resources.

Indirect Effects

Under the no-build alternative, the proposed trail extensions would not be built; therefore, there would be no indirect effects (negligible impacts) to the Ocmulgee Bottoms archaeological site or any other potential archaeological resources.

Cumulative Effects

Past actions that have resulted in impacts to the NRHP eligible resources located within the proposed project's APE have primarily been a result of infill development and redevelopment opportunities within the urbanized area surrounding the Ocmulgee National Monument. Within the park itself, existing walking trails have been built and any future trails that are built would have to abide by all of the requirements of the NEPA and NPS regulations. There are no reasonably foreseeable future changes in land use, additional occurrences of infill development in the surrounding area, or creation of additional walking trails that would reasonably be identified as having cumulative effects (negligible impacts) on the NRHP eligible resources or contributing features.

Conclusion

Under the no-build alternative, the proposed trail extension would not occur. Current activities would not change and there would be no direct, indirect, or cumulative effects (negligible impacts) on archaeological resources from not constructing the proposed trail extension.

3. Historic Markers

No historic markers exist in the affected project area or its immediate vicinity.

4. Parklands/Recreation Areas/Wildlife Refuges

The OCMU was established on December 23, 1936 and today the park contains 702 acres of forested uplands, open fields, year-round wetlands, and thickly wooded river floodplain. The OCMU Main Unit is open to visitors year round and the Lamar Mounds and Village Unit can be visited by special use permit. The OCMU has fees only for special events and is typically open to the public free of charge. The

OCMU currently offers year-round recreational and educational opportunities, and for the last 5 years averaged 125,211 visitors annually (NPS, 2010). Section III.G, below, analyzes various aspects of the parks and the impact of the build and no-build alternatives on those specific aspects of the park. No other publicly owned parklands/recreation areas/wildlife refuges of state, local, or national significance are located in the project corridor, and the implementation of a 1.2-mile trail extension with a canopy and a footbridge would not affect any parklands/recreation areas/wildlife refuges outside of the project area.

Build Alternative

Direct Effects

Access to the park would be maintained during construction and none of the park facilities or functions would be disrupted during construction. The proposed project would occur primarily in an area of the park with limited accessibility, with the exception of the tie-in with the existing trail network. The build alternative would enhance the park by offering a new trail and views as well as access to the southwestern portion of OCMU. The direct effect of the proposed project would be a moderate, long-term impact on the park, which would be a benefit to the park users. The proposed project would extend the existing trail network in OCMU and would provide access to a new portion of the OCMU to park users. The proposed project is approximately 1.2 acres within the OCMU which is approximately 702 acres.

Indirect Effects

Since this trail would link to other proposed and existing trails, the project would provide an indirect benefit to the park user by providing accessibility to additional areas of the park, increasing the length of usable trails for visitors to utilize, and providing additional scenery and landscape for the user to experience. However, there are no planned interpretative facilities, such as signs, or other enhancements for the project area, such as park benches. The users of the park would indirectly benefit from the creation of the expanded trail network. These indirect benefits would be moderate, beneficial, and long-term in nature.

Cumulative Effects

As there are no similar projects planned for OCMU, it can be assumed that the area would continue to be managed by NPS in a manner consistent with the mission or purpose of the park, with the additional benefit of the proposed project providing a minor improvement to recreational opportunities. The Otis Redding Loop Trail is going out to bid in 2011 or 2012 to extend the existing Ocmulgee Heritage Trail northwest of the proposed project to the Otis Redding Bridge. This extension would also improve access to the OCMU. Cumulative effects from the proposed project and the Otis Redding Loop Trail are expected to be moderate, beneficial, long-term impacts due to increased recreational opportunities that would be available as a result of a longer, interconnected trail network accessing the OCMU as well as connecting to other points within Macon.

Conclusion

Under this alternative, an approximately 1.2-mile trail extension would occur. This would increase the recreational opportunities within the park and allow access to the southwestern portion of OCMU. The direct, indirect, and cumulative impacts would be beneficial due to the introduction of a trail connecting existing trails and providing access to the southwestern part of OCMU. The direct, indirect, and cumulative impacts are expected to be moderate and long-term due to the connection to the Otis Redding Loop Trail providing additional access points to the trail network as well as connecting to other points in Macon.

No-Build Alternative

Direct Effects

Under the no-build alternative, no extension would be created, and the existing trail network would remain as is. Given the visitor use demand, the lack of a trail in the southwestern portion of the OCMU may cause some inconveniences and dissatisfaction by visitors, but more likely it would represent a lost opportunity for recreation. Overall, the lack of accessibility to the southwestern portion of OCMU would

be a minor cause for visitor dissatisfaction as it does not prevent recreational opportunities in the southwestern portion of OCMU. Further, increased visitation could possibly cause congestion on the existing trails in the future. Direct impacts to the park from implementing this alternative would be long-term and minor in nature. Not implementing the proposed build alternative would not support the need and purpose of the proposed project and would not create additional recreation opportunities within the park which would be considered a direct effect that would be minor, long-term and adverse in nature.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

The Otis Redding Loop Trail could provide the area's visitors with an opportunity for recreation near the Ocmulgee River. However, under the no-build alternative this opportunity would not be provided at OCMU for its visitors. It can be assumed that the area within the park would continue to be managed by NPS in a manner that is consistent with the mission or purpose of the park without the proposed project. However, no constructing the build alternative, would leave a missing link in the overall planned trail network, would not tie into the Otis Redding Loop Trail or the existing OCMU Trails and would be a minor, adverse, long-term cumulative effect of the no-build alternative.

Conclusion

Under this alternative, the proposed expansion would not occur. This would not improve the accessibility of the southwestern portion of OCMU. The lack of accessibility in this portion of OCMU could be a minor cause of dissatisfaction for the park user as it does not allow for recreational opportunities in the southwestern portion of OCMU. Thus, direct and cumulative effects would be considered long-term, minor, adverse impacts. There would be no indirect effects (negligible impacts) from the no-build alternative.

5. Section 4(f) Applicability

Section 4(f) of the Department of Transportation Act (recodified in 49 U.S.C. 303 and 23 U.S.C 138). refers to the temporary and/or permanent and constructive use of land from a significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any historic site. Under the provisions of Section 4(f), if the proposed project would result in adverse effects to these resources, FHWA must conduct an evaluation to demonstrate that there is no prudent and feasible alternative to the use of the 4(f) property. This concurrence enables FHWA to make a *de minimis* (minimal impact) finding, which satisfies the requirements of Section 4(f) and precludes the need for a Section 4(f) Evaluation. Please see Section IIB: Build Alternative and Figure 1.2 for description of the areas where the trail would occur. This proposed 1.2-mile trail extension would connect two trails; build a footbridge over a stream, a culvert through a wetland, and a canopy under an existing bridge.

The proposed project would convert approximately 52,800 square feet (1.21 acres) of the property within the boundaries of the OCMU to a multi-use trail. According to a letter dated April 29, 2011 from the NPS to FHWA, the NPS concurs that this project meets the impact criteria and associated determination requirements for a Section 4(f) *de minimis* finding as the proposed transportation use of the Section 4(f) resource, including consideration of impact avoidance, minimization, and mitigation or enhancement measures; does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f) (see Appendix B: Correspondence).

E. Affected Environment and Effects on the Natural Environment

1. Water Quality/303(d) List

Sections 305(b) and 303(d) of the *Clean Water Act of 1972*, as amended, provide a Federal requirement to catalog streams with impaired water quality. Section 303(d) catalogs water quality by the ability of a stream to support its designated use (e.g., fishing, recreation, drinking water, etc.). The 303(d) list, as it is commonly known, classifies water bodies as "supporting" or "not supporting" their designated

uses. In general, those streams listed as "not supporting" have a lower overall level of water quality than those streams listed as "supporting." In accordance with Section 303(d) of the Clean Water Act, the 303(d) list comprises waters not meeting their uses and for which total maximum daily loads (TMDLs) have not been completed for the parameters of concern. Once the TMDL is completed for the parameters of concern, the water may still not support its intended use; however, it is no longer on the 303(d) list. The closest drinking water intake is six miles upstream on the Ocmulgee River by the Macon Water Authority.

Surface Water

The project area lies within the Upper Ocmulgee Watershed [Hydrologic Unit Code (HUC) 03070103 [United States Environmental Protection Agency (USEPA), 2011]. Urban runoff in the City of Macon and Bibb County is addressed in the Georgia Environmental Protection Division Stormwater Management Strategy [Georgia Environmental Protection Division (GEPD), 2003].

The section of the Ocmulgee River by the proposed project, which is in the Middle Ocmulgee Water Planning Region and runs from Beaverdam Creek in Jones County to Walnut Creek in Bibb County, is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. This portion of the Ocmulgee River is listed as supporting its designated use of drinking water and fishing. The section of Walnut Creek near the project area is not supporting its designated use of fishing due to fecal coliform bacteria from urban runoff/urban effects. However, this section of Walnut Creek does have an approved TMDL, so it is not on the 303(d) list.

Groundwater

No drinking water wells were identified within the proposed project area. The proposed project corridor passes through an area of average groundwater pollution susceptibility. The proposed project does not pass through a groundwater recharge area, or area of thick soils.

Build Alternative

Direct Effects

Under this alternative, the trail extension would proceed. This would involve heavy machinery and soil disturbance, and these activities can pose risks to water quality through contamination from spills. However, Best Management Practices (BMPs), such as the measures described below, would be implemented to minimize these risks. Further, there would be no activities within the 25-foot buffer for the Ocmulgee River and Walnut Creek, which are both state waters. The proposed project is no less than 30 feet from either Walnut Creek or the Ocmulgee River.

Provisions in the construction contract would require the contractor to exercise every reasonable precaution to prevent pollution of the Ocmulgee River and Walnut Creek. Dumping of chemicals, fuels, lubricants, bitumens, raw sewage, or other harmful wastes into or alongside of streams or impoundments, or natural or manmade channels leading thereto, would be prohibited. The proposed project passes through an area of average groundwater pollution susceptibility and does not pass through a groundwater recharge area. Because all permit requirements would be met, and with previously described BMPs in place, no direct effects (negligible impacts) to ground or surface water quality would be occur.

Indirect Effects

Under this alternative, the trail extension would proceed. Heavy machinery and soil disturbance can pose risks to surface water quality through contamination from runoff. However, BMPs, such as the measures described below, would be implemented to minimize these risks. Further, no activities in the 25-foot buffer for state waters would occur, and Ocmulgee and Walnut Creek are both state waters.

Provisions in the construction contract would require the contractor to exercise every reasonable precaution during construction to prevent pollution of the Ocmulgee River and Walnut Creek. Wherever possible, BMPs such as early re-vegetation of disturbed areas would be accomplished so as to minimize soil movement. Additional contract provisions would require the use of temporary erosion control

measures as deemed necessary during construction. These temporary measures may include the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods as applicable. These provisions are coordinated with the permanent erosion control features insofar as practical to assure economical, effective, and continuous erosion control throughout the construction and post-construction periods and are in accordance with 23 CFR, Part 650, Subpart B. The project is no less than 30 feet from Walnut Creek so in conjunction with these precautions impacts to this stream should be negligible.

If asphalt or concrete is used, the trail's approximately 1.2 miles of impervious surface should negligibly affect water quality because of erosion control measures and the preservation of the 25-foot buffer for state waters. If gravel were to be used, the water quality impacts would be further minimized given the filtering effect of the material. These surfaces would be further evaluated as the design proceeds. Because all permit requirements would be met, and with previously described BMPs in place, the indirect effects to water quality would be negligible, long-term, local, and adverse.

Cumulative Effects

The eventual Otis Redding Loop Trail could have impacts to water quality near the proposed project area. Similar to the proposed project, it is a small construction project with a short construction period resulting in a small increase in impervious surface area. The short construction period indicates temporary soil disturbance. However, with proper BMPs as described above, impacts from soil disturbance and leaks from heavy machinery as well as changes to impervious surface areas should be negligible. All other projects would be subject to the same water quality regulations as described above, and there are no other major related projects within a similar timeframe and project area to the Walnut Creek Extension, which would allow the resource to recover from the potential Walnut Creek Expansion effects and future negligible impacts from the Otis Redding Loop Trail. Consequently, it is assumed that activities in the area would continue to conform to water quality standards. Therefore, the cumulative effects would be negligible, long-term, local, and adverse.

Conclusion

Implementing the trail extension could have impacts to water quality, but permit regulations and BMPs as described above would minimize these impacts. There would be no direct effects. Indirect and cumulative effects would be negligible, long-term, local, and adverse on water quality.

No-Build Alternative

Direct Effects

Under this alternative, no new activities would be introduced. Without new activities, there would be no direct effects (negligible impacts) to water quality.

Indirect Effects

Without new activities, land surfaces would not change and neither would runoff and other sources of indirect impacts to water quality. As such, there would be no indirect effects (negligible impacts) to water quality.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

No new activities would be introduced under this alternative as the trail extension would not occur, so there would be no direct, indirect, or cumulative effects (negligible impacts) on water quality.

2. State Waters

Walnut Creek and Ocmulgee River are state waters, so the 25-foot warm water vegetative buffer regulations apply to these features.

Build Alternative

Direct Effects

The project parallels Ocmulgee River and Walnut Creek and does not encroach on the Georgia-regulated, 25-foot warm water vegetative buffer, which was verified using global positioning system (GPS). The project does involve the crossing of the unnamed S1, which is a state water [for more details see Section III(E)3: Waters of the U.S.]. Given the nature of the project, a buffer variance would not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Since the project constitutes a "roadway drainage structure" (i.e. bridge) and no other portion of the project area impacts buffer zones other than this parallel crossing, the project is exempted from a buffer variance [O.C.G.A. § 12-7-6 (2009)]. Despite the project crossing the unnamed S1 and being adjacent to Walnut Creek and Ocmulgee River, no stream buffer variance is needed. Due to necessary vegetative clearing for the proposed trail, direct impacts would occur, but would be minor in nature.

Indirect Effects

BMPs discussed in the water quality section would minimize impacts to state waters from runoff. Due to the type of proposed project, plans to maintain existing grade to the greatest extent possible, and relatively small footprint (10-foot wide path) in the vicinity of the state waters, the proposed project would be expected to have negligible indirect impacts to state waters.

Cumulative Effects

Constructions of the remaining portions of the Ocmulgee Heritage Trail would likely have similar negligible impacts to state waters. It would not be expected that the negligible impacts from this project and others in the area would be of concern cumulatively to state waters; therefore, cumulative effects would likely be negligible.

Conclusion

Construction of the proposed project would not be expected to have any significant affects to state waters. Vegetative clearing for the proposed trail would cause minor, direct effects to state waters. No indirect or cumulative effects would be expected to occur as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and existing conditions would not be altered; thus, there would be no direct effects (negligible impact) to state waters.

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Without the proposed trails construction, there would be no cumulative effects (negligible impact).

Conclusion

As the proposed trail extension would not occur, state waters would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Waters of the U.S.

Jurisdictional Waters of the U.S. are defined by 33 CFR Part 328.3(b) and are protected by Section 404 of the Clean Water Act (33 USC 1344), which is administered and enforced by the U.S. Army Corps of Engineers (USACE). This wetland assessment was performed in accordance with the *Corps of Engineers Wetlands Delineation Manual; January* 1987, 33 CFR Part 328; *Definition of Waters of the United States.* The above referenced documents define the methodologies used to identify the jurisdictional limits of Waters of the United States, including freshwater wetlands. In general, areas that meet specified

hydrology standards, contain hydrophytic vegetation and hydric soils are considered jurisdictional wetlands by the USACE.

The proposed project corridor was surveyed between April 29 and June 26, 2009 with respect to its involvement with Waters of the U.S. as required by the provisions of EO 11990 and subsequent federal regulations. GDOT submitted the Phase II Ecology Assessment to NPS on January 4, 2011, which concurred with the findings on January 25, 2011 (See Appendix B).

a) Wetlands and Streams

W1 and Wetland-2 (W2) are further discussed in Section III(E)4: NPS Wetlands. W1 did not exhibit hydrologic or hydrophytic vegetation characteristics and W2 did not exhibit the hydrophytic vegetation characteristics necessary to be considered a jurisdictional USACE wetland. No other wetlands were found in the study area. The three below streams also met NPS jurisdictional requirements but are analyzed in this section.

Stream-1 (S1) is a low quality, warm-water, unnamed perennial stream that is primarily fed by storm water conveyance structures associated with Interstate 16 and other upstream developments. S1 flows directly into the Ocmulgee River in the northern portion of the project and is considered a state water. Therefore, Georgia riparian buffer regulations do apply to this feature; however the proposed use is exempt from requiring a buffer variance.

The project necessitates the crossing of one stream that is considered a state water. The S1 crossing is a perennial, non-tidal, warm water stream. This state water is eligible for 25' riparian buffer (top of each bank) protection; however given the nature of the project a buffer variance will not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Due to the project being for a "roadway drainage structure" (i.e., bridge) and no other portion of the project area requiring buffer zone impacts other than this parallel crossing, the project is exempt from needing a buffer variance [O.C.G.A. § 12-7-6 (2009)].

This stream is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. The gullied stream channel is approximately 50-feet wide top of bank to top of bank, with a wetted channel width of approximately 3-6 feet wide north of the existing road crossing and 5-8 feet south of the existing road crossing. The water was observed within the stream to be approximately 1 to 3 feet deep. The width of the riparian zone off of both banks is in excess of 100 feet due to the entire reach of S1 being in the floodplain of the Ocmulgee River (S2).

S1 has a sand, silt, and limited cobble substrate throughout the reach; silt appears to be the dominate substrate. The water was turbid with a slow flow into the Ocmulgee River. The channel appears to be ditched and very entrenched with little to no sinuosity and as previously mentioned there is a culverted road crossing that separates S1 into two segments. Additionally, south of the existing road crossing of S1 is a sewer line crossing. The riparian buffer of S1 within the project area is comprised of mixed hardwood forest with an understory dominated by exotic vegetation (Chinese privet). Using the definitions outlined in the USACE Standard Operation Procedure (SOP) document for Stream Mitigation Factors, S1 is considered to be "fully impaired."

Project plans for the S1 crossing entail the use of a bridge structure to span this feature that is subject to high flow events given the entrenchment and scour present along the stream bank. Given the topography outside S1's delineated boundary, placing the bridge footers 2.5 feet inside the tops-of-the bank, but above the ordinary high water mark (OHWM) is necessary. The bridge would not impede the passage of fish, which likely only utilize the stream during high flow periods. Coordination with the US Fish and Wildlife Service (USFWS) under the Fish and Wildlife Coordination Act (FWCA) is not required since the proposed improvements would occur above the ordinary high water mark (OHWM) and would not be regulated by FWCA.

Stream-2 (S2) is the Ocmulgee River and is located just outside and to the southwest of the limits of study; however given its proximity to the project it is described and included herein. The Ocmulgee River is a warm-water, perennial and traditionally navigable water (TNW) by USACE standards. S2 is the

receiving water for the onsite SI and is considered a state water. Therefore, Georgia riparian buffer regulations do apply to this feature; however the proposed project parallels S2 but does not encroach within the Georgia regulated 25 foot riparian buffer zone. This river ranges from approximately 300-350 feet in width and has highly variable depths that are dependent upon current flood stage. At the time of this assessment, the river was below normal levels and sandbars were present above the water line intermittently throughout the reach that parallels the limits of study. The width of the riparian zone on the project side of S2 varies from 150' to 350' wide.

The Ocmulgee River has a predominantly sand substrate; however limited areas of silt and cobble were identified. The water was turbid at the time of the assessment with a moderate flow rate. The section of the Ocmulgee River by the proposed project, which is in the Middle Ocmulgee Water Planning Region and runs from Beaverdam Creek in Jones County to Walnut Creek in Bibb County, is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. This portion of the Ocmulgee River is listed as supporting its designated use of drinking water and fishing. Using the definitions outlined in the USACE SOP document for Stream Mitigation Factors, S2 is considered to be "fully functional."

Stream-2 is outside the project area and construction of the proposed project would not impact it; therefore, coordination under the FWCA is not required.

Stream-3 (S3) is Walnut Creek and is located just outside and to the southeast of the southeastern most project study area terminus. However, given its proximity to the project it is described and included herein. Walnut Creek is a warm-water, perennial stream by USACE standards and could be considered a TNW during normal to above normal flow periods. Stream-3 is considered a state water therefore Georgia riparian buffer regulations do apply to this feature. The proposed project parallels S3, however it does not encroach within the Georgia regulated 25 foot riparian buffer zone. This stream is not listed on the Georgia 2010 Integrated 305(b)/303(d) list as a Category 5 stream. Walnut Creek ranges from approximately 16-25 feet in width and is generally approximately 2-5 feet deep during normal flow periods and dependent upon

whether the measurement is at a riffle or pool location. The width of the riparian zone on the project side of S3 is in excess of 100 feet due to the entire reach of S3 being in the floodplain of the Ocmulgee River (S2).

Construction of the proposed project would not impact S3; therefore, coordination under the FWCA is not required.

Build Alternative

Direct Effects

The proposed project would not impact to the stream bank gauge for the Ocmulgee River on the Otis Redding Bridge as the proposed project begins approximately 950 feet east of the bridge and continues in the opposite direction. As part of this proposed project, a 12-foot wide footbridge would be constructed over S1 with little in-channel work (Figure 2-2). The permanent stream impact from installation of the footbridge would be 51 square feet.

Project plans for the S1 crossing entail the use of a bridge structure to mostly span this feature that is subject to high flow events given the entrenchment and scour present along the stream bank. Given the topography outside S1's delineated boundary, placing the bridge footers slightly inside the tops-of-the bank at 2.5 feet is necessary. The bridge would not impede the passage of fish, which likely only utilize the stream during high flow periods. As previously stated, coordination with the USFWS under FWCA is not required for these impacts, as these impacts occur above the OHWM.

Given the S1 location within NPS lands, a Savannah District Regional Condition mandates that a Nationwide Permit #18 pre-construction notification be submitted and approved by the USACE prior to project construction. Nationwide Permit #18 addresses minor discharges or fill materials into all waters of the United States. NPS granted an exemption even for mitigation per their January 25, 2011 email (Appendix B). This exemption was granted for mitigation because the proposed project satisfies item "a" of the "may be excepted" activities in the NPS Procedural Manual #77-1: 4.2.1 Potential Exceptions for Certain "Water Dependent" and Maintenance Activities.

In the Phase I Ecology Assessment, a 50-foot wide construction access corridor was proposed over Sl. At the time of the phase I ecology report, it was not known if the existing culverted road crossing, would be suitable to handle heavy construction equipment. Additional investigation subsequent to the phase I ecology report approval revealed that the existing culvert at S1 should be able to handle the construction traffic given its current use for maintenance traffic. Consequently, the proposed additional culvert through S1 has been removed from the proposed project plan. The same BMPs listed in the Section III(E)4: NPS Wetlands would apply here to prevent impacts to water quality. Since S1 transverses the entire width of the project area, avoiding it is impossible, though the current design and BMPs minimize impacts to water quality. These measures would minimize the risk of contamination into the stream from spills and disturbance from activities. According to NPS standards the minimal work in-channel and proper BMPs described in Section III(E)4: NPS Wetlands, the direct effects should be minor, local, short-term, and adverse.

Indirect Effects

The BMPs listed in Section III(E)4: NPS Wetlands would avoid the indirect effects of runoff from soil disturbance and heavy machinery from construction. However, there could be a negligible increase in runoff from the additional impervious surface area. If gravel were used, the impacts would be less than those from asphalt or concrete. Thus, the indirect effects would be negligible, local, long-term, and adverse.

Cumulative Effects

The related Otis Redding Loop Trail project would not impact S1 due to its location outside of the project area. Because S1 is on NPS land, it is assumed that the same regulations as described above would continue to protect it from future projects; however, no other projects are currently planned for the area around S1. Thus, the cumulative effects would be minor, local, short-term, and adverse from the proposed project.

Conclusion

Only S1 would be impacted by the proposed project from the construction of a footbridge. This would cause minor, local, short-term, and adverse direct effects; negligible, local, long-term, and adverse indirect effects; and minor, local, short-term, and adverse cumulative effects.

No-Build Alternative

Direct Effects

Under this alternative, no new activities would occur, which means no direct effects (negligible impacts) to streams.

Indirect Effects

Since the project would not proceed, no new activities would occur, which means no indirect effects (negligible impacts) to streams.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, and cumulative effects (negligible impacts) to streams would occur.

4. NPS Wetlands

The Walnut Creek Extension is located predominantly on lands owned by the DOI's NPS, and as such, assessments for Waters of the U.S. must utilize guidance set forth in the *National Park Service Procedural Manual #77-1: Wetland Protection; February 2008.* To further classify wetlands on NPS lands, if one or more of the following three attributes are present, the area is considered a wetland by NPS protocols: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is

predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year. For this project, two types of wetland lines were necessary as NPS protocols for wetlands/streams are more inclusive; and two features were identified that met NPS standards for wetlands but not those of the USACE.

The field surveys occurred between April 29 and June 26, 2009. According to the field studies, only two riverine wetland sites in the project area met NPS requirements for wetlands: W1 and W2. NPS concurred with both ecology reports and their conclusion that the project was an exempted action from a NPS Wetlands Statement of Findings and related compensation requirements per email on January 25, 2011 (Appendix B). These two sites do not meet USACE standards for wetlands. Additionally, W1 and W2 are low quality jurisdictional wetlands.

W1 (Cowardin Criteria PUB2) is a low quality NPS jurisdictional wetland comprised of a ditch feature with hydric soils, no sinuosity, and no vegetation present within its boundaries. There has been recent earthwork within a segment of W1. W1 is 17 feet wide and narrows to 9 feet wide at the point of intersection with the Ocmulgee River and is approximately 2-3 feet deep. Within the project study area, W1 is 0.027-acre. Hydrology indicators are consistent with that of a ditch this size but are lacking in areas closer to the river. The hydrologic regime of W1 appears to be associated with storm events of short detention time and seasonal saturation. The main function of W1 appears to be a channel for stormwater runoff from I-16 and lands adjacent to project area. W1 was delineated in the field, located with sub-meter GPS technology. Construction of the proposed trail would require the placement of a culvert in W1 in order to convey stormwater from I-16 and lands adjacent to the project area to the Ocmulgee River (S2).

Based on the NPS definition of wetlands, the maximum acreage of impacts to W1 due to construction of the proposed trail would be 0.016 acre (59.3% of this wetland). Per NPS DO-770-1, Section 4.2.1(a), this action falls within the 0.10 acre Exempted Action definition as the proposed project is a single and complete project where the primary purposes include public education, interpretation, or enjoyment of wetland recourses and where total wetland impacts from fill placement are 0.10 acre or less.

Permanent impacts to W1 resulting from the permanent fill pad associated with the culvert structure would total 0.008 acre. Temporary impacts totaling 0.008 acre would occur as a result of the need for 10-foot wide construction access corridors along both sides of the bridge. The NPS granted an exemption for these W1 impacts from this project per DO#77.1 per NPS's email on January 25, 2011 and also concurred with the delineations and provided an exemption from a NPS Wetland Statement of Findings (Appendix B). A USACE permit will not be required as W1 does not qualify as a jurisdictional wetland as defined by the USACE.

W2 (Cowardin Criteria unknown) is linear, mostly unvegetated, and located underneath and parallel to the I-16 Bridge that shades it completely. The connection of W2 to Walnut Creek is outside of the project area but near the boundary. While W2 becomes flooded during major rain events and high water, it does not retain the water long due to its proximity to the Ocmulgee River. It also receives stormwater runoff from the I-16 Bridge start and end points. An existing W2 timber bridge crossing connects an existing OCMU trail under the interstate bridge with a series of nature trails leading to the edge of both Walnut Creek and the Ocmulgee River. Project plans call for terminating this proposed section of the trail at the foot of the existing NPS footbridge; therefore, W2 would not be impacted as a result of the proposed project.

All wetland sites are linear in nature, and any shift would not likely reduce the overall wetland impact. Since it traverses the entire width of the project area, avoiding W1 is impossible; however, the proposed culvert crossing minimizes impacts. The following BMPs would be implemented:

1. **Effects on hydrology and fluvial processes:** Action must have only negligible to minor, new adverse effects on site hydrology and fluvial processes, including flow, circulation, velocities, hydroperiods, water level fluctuations, sediment transport, channel morphology, and so on. Care must be taken to avoid any rutting caused by vehicles or equipment.
2. **Effects on fauna:** Action must have only negligible to minor, new adverse effects on normal movement, migration, reproduction, or health of aquatic or terrestrial fauna, including at low flow conditions.
3. **Water quality protection and certification:** Action is conducted so as to avoid degrading water quality to the maximum extent practicable. Measures must be

employed to prevent or control spills of fuels, lubricants, or other contaminants from entering the waterway or wetland. Action is consistent with state water quality standards and Clean Water Act Section 401 certification requirements (check with appropriate state agency).

4. **Erosion and siltation controls:** Appropriate erosion and siltation controls must be maintained during construction, and all exposed soil or fill material must be permanently stabilized at the earliest practicable date.
5. **Proper maintenance:** Structure or fill must be properly maintained so as to avoid adverse impacts on aquatic environments or public safety.
6. **Heavy equipment use:** Heavy equipment use in wetlands must be avoided if at all possible. Heavy equipment used in wetlands must be placed on mats, or other measures must be taken to minimize soil and plant root disturbance and to preserve preconstruction elevations.
7. **Stockpiling material:** Whenever possible, excavated material must be placed on an upland site. However, when this is not feasible, temporary stockpiling of excavated material in wetlands must be placed on filter cloth, mats, or some other semipermeable surface, or comparable measures must be taken to ensure that underlying wetland habitat is protected. The material must be stabilized with straw bales, filter cloth, or other appropriate means to prevent reentry into the waterway or wetland.
8. **Removal of stockpiles and other temporary disturbances during construction:** Temporary stockpiles in wetlands must be removed in their entirety as soon as practicable. Wetland areas temporarily disturbed by stockpiling or other activities during construction must be returned to their pre-existing elevations, and soil, hydrology, and native vegetation communities must be restored as soon as practicable.
9. **Topsoil storage and reuse:** Revegetation of disturbed soil areas should be facilitated by salvaging and storing existing topsoil and reusing it in restoration efforts in accordance with NPS policies and guidance. Topsoil storage must be for as short a time as possible to prevent loss of seed and root viability, loss of organic matter, and degradation of the soil microbial community.
10. **Native plants:** Where plantings or seeding are required, native plant material must be obtained and used in accordance with NPS policies and guidance. Management techniques must be implemented to foster rapid development of target native plant communities and to eliminate invasion by exotic or other undesirable species.
11. **Boardwalk elevations:** Minimizing shade impacts, to the extent practicable, should be a consideration in designing boardwalks and similar structures. (Placing a boardwalk at an elevation above the vegetation surface at least equal to the width of the boardwalk is one way to minimize shading.)
12. **Wild and Scenic Rivers:** If the action qualifies as a water resources project pursuant to Section 7(a) of the Wild and Scenic Rivers Act, then appropriate project review and documentation requirements under Section 7(a) are required.
14. **Endangered species:** Action must not jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, including degradation of critical habitat (see *NPS Management Policies 2006* and guidance on threatened and endangered species).
15. **Historic properties:** Action must not have adverse effects on historic properties listed or eligible for listing in the National Register of Historic Places.

W1 and W2 would be expected to continue to be protected by applicable NPDES regulations with only temporary disturbances from nonpoint source pollution. The future Otis Redding Loop Trail would not impact W1 or W2, since W1 is far away and W2 is on the other side of the project area from the terminus of the Otis Redding Loop Trail. Presently, maintenance activities of the existing bridge and culverts in the project area are negligible. Besides runoff, wetland impacts are generally localized to dumping, draining, or other activities. As no other projects are planned in the project area, there should be no additional effects on W1 and W2. Further, W1 and W2 would continue to be protected by the above described regulations. Therefore, the cumulative effects from continued maintenance activities and the proposed project would be negligible, long-term, local, and adverse.

Conclusion

While activities would occur in and around W1 and W2, measures described above would be performed to offset any impacts to wetlands. The effects to wetlands would be minor, short-term, local, and adverse for direct; negligible, long-term, local, and adverse for indirect and cumulative.

5. Mitigation

USACE:

Compensatory mitigation for impacts to Waters of the US would not be required for this project as impacts to streams would be less than the 100 linear foot threshold prescribed by the USACE in NWP 18. Additionally, no USACE jurisdictional wetlands would be impacted by the proposed project.

NPS:

Compensatory mitigation for impacts to NPS wetlands would not be required. Based on the NPS definition of wetlands, the maximum acreage of impacts to W1 due to construction of the proposed trail would be 0.016 acre (59.3% of this wetland). Per NPS DO-770-1, Section 4.2.1(a), this action falls within the 0.10 acre Exempted Action definition as the proposed project is a single and complete project where total wetland impacts from fill placement are 0.10 acre or less.

Floodplains

EO 11988 requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development if a practicable alternative exists. A survey of the project corridor for floodplains as required by the EO has identified a transverse crossing of the 100-year floodplain (FEMA floodplain Zone AE [base floodplain where base flood elevations are provided]) associated with the Ocmulgee River (Figure 3-2). The proposed project is entirely within the 100-year floodplain as is most of OCMU. Per NPS's email on February 1, 2011 (Appendix B), this project is an excepted action under DO-77-2. The relevant excerpt from DO-77-2 - Floodplains, Excepted Actions explains that "this procedure does not apply to certain park functions that are often located near water for the enjoyment of visitors but require little physical development and do not involve overnight occupation. Examples include: Picnic facilities, scenic overlooks, foot trails, and small associated daytime parking facilities in non-high hazard areas provided that the impacts of these facilities on floodplain values are minimized." The FEMA No Rise Certification documentation has been included in Appendix B.

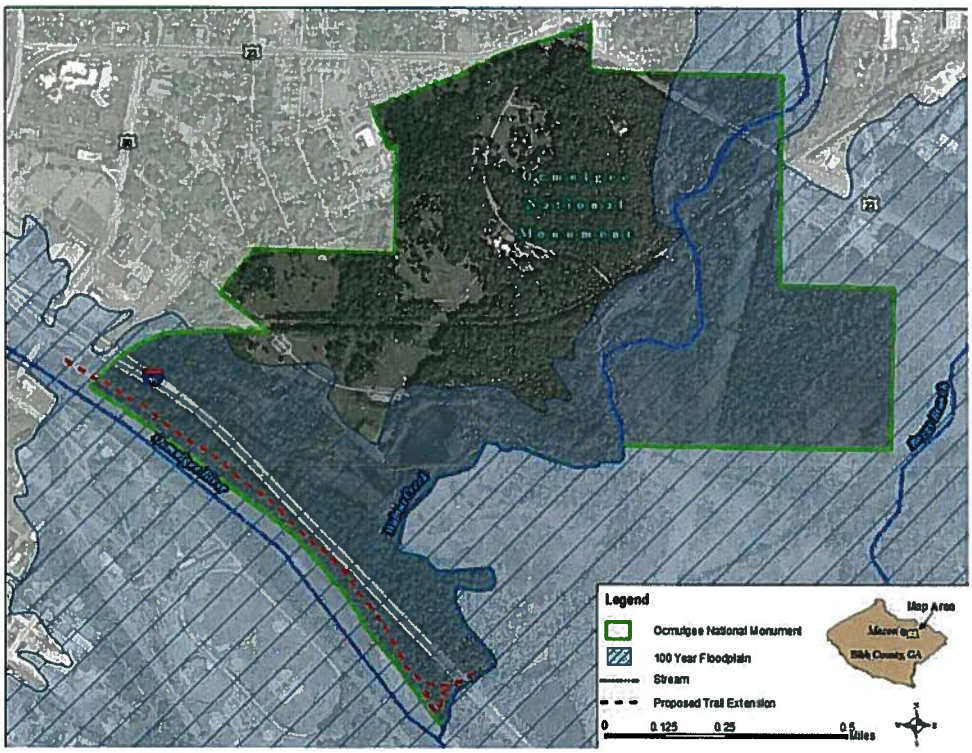

Figure 3-2. Ocmulgee River 100-Year Floodplain

Source: (ESRI, 2002)

Build Alternative

Direct Effects

Under this alternative, the proposed project would involve activities in the regulatory floodplains of the Ocmulgee River. These activities are defined as the construction of a canopy, approximately 1.2 miles of trail, a footbridge, and a culvert. These activities would be expected to have a negligible impact because flood levels and function of the floodplain would only negligibly change. Construction of the project could require the placement of a negligible amount of fill material, in the floodplain, but the project would primarily be closely tied to existing grades.

The project would be designed to have negligible effect on the floodplain. Procedures for Coordinating Highway Encroachments on Floodplains with the Federal Emergency Management Agency (FEMA) are being followed, and the GDNR has been notified of the project (Appendix A). The project

would involve coordination with Bibb County Engineering Department (local floodplain management), FEMA and GDNR in order to obtain a no rise certificate, prior to construction. This coordination would follow "Procedures for Coordinating Highway Encroachment on Floodplains."

At the time of the Draft EA, preliminary evaluation of the project's impacts to the floodplain have indicated that, due to the negligible alteration of existing grades, the project "would not have a substantial impact on natural and beneficial floodplain values and would not support incompatible floodplain development" (Appendix B). As previously described, based on this preliminary evaluation it is anticipated that the project would require a no rise certificate; however, based on hydraulic analysis that will be completed prior to the approval of the Final EA/FONSI., As part of the analysis if it is determined that the project would require a Conditional Letter of Map Revision or a Letter of Map Revision from FEMA, this will be completed prior to construction. As discussed in meetings between GDOT and FHWA on April 5, 2012 and April 12, 2012 (Appendix D), the Final EA will disclose the results of the hydraulic analysis (including a discussion of the project's potential to raise the base flood elevation), appropriate documentation needed (i.e., no rise certificate), the evaluation of practical alternatives that have been evaluated, a discussion of what types of impacts to the floodplain would occur if the project was constructed, the reasons why the proposed actions must be located within the floodplain, and a statement indicating whether the action conforms to the applicable State or local floodplain protection standards, as set forth in 23 CFR 650.113(a)(1-3).

With negligible alteration of existing grades, the project would not represent a substantial risk to life or property; it would not have a substantial impact on natural and beneficial floodplain values; it would not support incompatible floodplain development; and it would not interrupt or terminate a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route, as the project is mostly in a national park. Because established procedures would be employed, the direct effects would be negligible, long-term, local, and adverse.

Indirect Effects

The proposed project is entirely in the floodplain. The project would not induce growth because the NPS has no plans for ancillary projects and the project is entirely on NPS land or utility easements. Consequently, the proposed project would have no indirect effects (negligible impacts).

Cumulative Effects

The future Otis Redding Loop Trail would be in the same floodplain. However, this project would also be subject to the above regulations and would represent a small alteration of the floodplain. There are no other projects planned in the project area that could affect the function of the 100-year floodplain. Cumulative effects would be negligible, long-term, local, and adverse as long as the Otis Redding Loop Trail also keeps predominantly to existing grades.

Conclusion

These small additions to and temporary activities in the floodplain would not degrade it due to proper design, such as keeping predominantly with existing grades. Consequently, the expected impacts to floodplains would be negligible, long-term, local, and adverse for direct; none for indirect (negligible impacts); and negligible, long-term, local, and adverse for cumulative.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, or cumulative effects (negligible impacts) would occur to the floodplain.

6. Farmland

The project would not affect farmland as defined in the Farmland Protection Policy Act (FPPA), 7 CFR Part 658. In accordance with 7 CFR, Part 658, criteria have been applied to determine effects to farmland; and if the project is compatible with FPPA provisions. Coordination with the Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture (USDA) on August 28, 2009 indicates that the Walnut Creek extension project is completely contained within a U.S. Bureau of the Census Urban Area and is therefore exempt from further assessment (Appendix A). Coordination with NRCS also indicated that there is no record of any Watershed Dams in the project vicinity or downstream. There are also no NRCS easements related to the Wetland Reserve Program and the Farm and Ranch Land Protection Program.

Build Alternative

Direct Effects

The proposed project is completely contained within a U.S. Bureau of the Census Urban Area. As such, assessment under the FPPA is not required. The proposed project would be constructed primarily on NPS property within the urbanized City of Macon. No direct effects (negligible impacts) would occur to farmlands as a result of the implementation of the proposed project.

Indirect Effects

The proposed project is occurring primarily on protected NPS lands in surrounded by an urban environment. Induced growth is not expected as a result of the proposed project and any important farmlands within the area have already been developed. No indirect effects (negligible impacts) to farmlands would occur as a result of the proposed project.

Cumulative Effects

Past development in the surrounding area has already impacted farmlands in the surrounding area. No direct or indirect effects to farmlands would occur as a result of the implementation of the proposed project, and the project would occur within a U.S. Census Bureau, Urban Area; therefore, no cumulative effects (negligible impacts) to farmland are expected as a result of the proposed project.

Conclusion

Construction of the proposed project would not cause direct, indirect, or cumulative effects (negligible impacts) to farmlands.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, no direct, indirect, or cumulative effects (negligible impacts) would occur to the floodplain.

7. Threatened and Endangered Species

Pursuant to the Endangered Species Act (ESA) of 1973, a pedestrian survey was conducted between April 29th and June 26, 2009 to identify protected individuals and/or potential habitat for protected species within the project corridor. Surveys were focused in areas that contain habitat types similar to those described for listed endangered and threatened species in Bibb County, Georgia (Table 5). The FHWA concurred with the determination that the project would have no effect to federally listed species or their habitat on November 24, 2010 (Appendix B).

Red-cockaded Woodpecker, *Picoides borealis*

Federal Status: Endangered

State Status: Endangered

The red-cockaded woodpecker (RCW) is federally and state listed as endangered. RCWs are cardinal-sized black and white birds that are associated with mature or old-growth pine stands. The preferred nesting habitat is old-growth pine trees that are 60 years or older with a relatively thin understory. Preferred RCW foraging habitat is described as pine or pine/hardwood stands 30 years of age or older.

The Georgia Natural Heritage Database does not have any records for the RCW within three (3) miles of the project area. No RCWs were observed within the proposed project area, nor was any suitable foraging or nesting habitat, as described above, identified for this species. Additionally, there are no pine stands within the proposed project study area. Since the project area can be characterized as maintained or mixed hardwoods in nature and lacks pine stands, this project would have no effect on the RCW.

Table 5. Federal and State Protected Species Known to Occur in Bibb County, GA

Common Name	Scientific Name	Federal Status	State Status	Habitat	Habitat Available	Species Impact
Bald Eagle	*Haliaeetus leucocephalus*	NL	T	Edges of lakes and large rivers; seacoasts	No	No Effect
Red-cockaded Woodpecker	*Picoides borealis*	E	E	Old-growth pine trees with a relatively thin understory	No	No Effect
Wood Stork	*Mycteria americana*	E	E	Cypress/gum ponds; marshes; river swamps; bays	No	No Effect
Rafinesque's Big-eared Bat	*Corynorhinus rafinesquii*	NL	P	Buildings, old mine shafts, wells, caves, hollow trees, areas behind loose bark, and crevices in rock ledges	Yes*	No Effect
Fringed Campion	*Silene polypetala*	E	E	Mature hardwood or hardwood-pine forests on river bluffs, as well as small stream terraces, moist slopes and well shaded ridge crests	No	No Effect
Green Pitcherplant	*Sarracenia oreophila*	E	E	Open seepy meadows, along sandy flushed banks of streams, and in partially shaded red maple-black gum low woods or poorly drained oak-pine flatwoods	No	No Effect
Relict Trillium	*Trillium reliquum*	E	E	Rich-ravines or adjacent alluvial terraces	No	No Effect
Sweet Pitcher-plant	*Sarracenia rubra*	NL	E	Acid soils of open bogs, sandhill seeps, Atlantic white-cedar swamps, wet savannahs, low areas in pine flatwoods, and along sloughs and ditches	No	No Effect
Yellow Flytrap	*Sarracenia flava*	NL	P	Acidic soils of seepy meadows, bogs, wet savannas, and pine flatwoods, sometimes along ditches and sloughs	No	No Effect

Key: T = Threatened; E = Endangered; NL= Not Listed; P=Rare, Protected; SC=State Species of Concern.
Sources: (Environmental Services, Inc., 2010; Wildlife Resources Division, Georgia Department of Natural Resources (GWRD), 2008; NatureServe, 2009).

*Given that the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, a no effect determination for the Rafineque's big-eared bat is warranted.

Wood Stork, *Mycteria americana*

Federal Status: Endangered

State Status: Endangered

The wood stork is federally and state listed as endangered. The wood stork is a large white bird with a black tail and grey neck and head that typically inhabit freshwater and brackish wetlands in the southeast. This species usually nests in cypress or mangrove swamps, and forages in freshwater marshes, narrow tidal creeks, or flooded tidal pools. Ideal feeding habitats are those that have flooded and then dried, creating pools with high concentrations of fish trapped by falling water levels.

The Georgia Natural Heritage Database does not have any records for the wood stork within three (3) miles of the project area. No wood storks or associated rookeries were identified during the field habitat survey, nor were any of the habitats as described above present within the project area. Therefore, this project would have no effect on the wood stork.

Fringed Campion, *Silene polypetala*

Federal Status: Endangered

State Status: Endangered

The fringed campion is federally and state listed as endangered. The fringed campion is a perennial herb with stems that rise from evergreen rosettes that form at the tips of runners and readily form rooting mats. The leaves are opposite and the flowers are two (2) to three (3) inches wide, consisting of five (5) deeply fringed pink petals that appear from mid-March through May. The preferred habitat for this species is mature hardwood or hardwood-pine forests on river bluffs, as well as small stream terraces, moist slopes, and well shaded ridge crests.

The Georgia Natural Heritage Database has records of one population of the fringed campion within three (3) miles of the project area. The closest population to the project site is approximately 2.9

miles to the north, northwest. There are two other sites located within Bibb County that are 4.2-miles away to the northwest.

A systematic pedestrian survey was performed (April 29, 2009) during the flowering period. While not part of the official habitat description, fringed campion typically inhabits much more open understory environments than that offered by the project area. The habitat on site consists of a heavy under and mid-story of Chinese privet, Chinese tallow-tree, Japanese honeysuckle, and common chickweed (*Stellaria media*) with a closed over-story canopy consisting mainly of hackberry (*Celtis laevigata*), tree-of-heaven, and box-elder. The vegetation composition and condition preclude this site from providing potentially suitable habitat. Despite the project's location along the Ocmulgee River, potentially suitable habitat was not identified. Due to habitat consisting of a dense understory, high concentration of exotic vegetation, the lack of common commiserate species, and a negative species specific survey during the flowering period; the proposed project would have no effect on the fringed campion.

Green Pitcher-plant, *Sarracenia oreophila*

Federal Status: Endangered

State Status: Endangered

The green pitcher-plant is federally and state listed as endangered. The green pitcher-plant is a perennial herb with leaves modified into erect, tubular pitchers that capture and digest animals. The solitary flowers possess five (5) drooping yellow petals that appear from May to early June. The preferred habitat consists of open seepy meadows, along sandy flushed banks of streams, and in partially shaded red maple-blackgum (*Nyssa slyvatica*) low woods or poorly drained oak-pine flatwoods.

The Georgia Natural Heritage Database does not have any records of the green pitcher-plant within three (3) miles of the project area. No potential habitat as described above exists within the project study area nor were any observed during the field habitat surveys. The project study area is dominated by

maintained and mixed hardwood uplands mostly dominated by exotic species; therefore, this project would have no effect on the green pitcher-plant.

Relict Trillium, *Trillium reliquum*

Federal Status: Endangered

State Status: Endangered

The relict trillium is federally and state listed as endangered. The relict trillium is a perennial herb with three (3) leaves in a whorl at the top of a seven (7) inch-long hairless stem. The leaves are mottled green to silver along the midvein. The flowers consist of three (3) petals that are maroon, green, or yellow with purple stamens that appear mid-March through April. The preferred habitat for the relict trillium is in mature hardwood forests and sometimes mixed with mature pines. The relict trillium occurs in rich cove sites with moist, well-drained, deep soils in mixtures of other wildflowers along streams, on stream terraces, and in lime-sink depressions.

The Georgia Natural Heritage Database does not have any records for this species within three (3) miles of the project area. No habitat as described above exists within the project study area nor were any individuals observed during the field habitat survey. The project study area is dominated by maintained and mixed hardwood uplands, contains a high concentration of exotic species, and the onsite stream does not offer suitable habitat. Therefore, this project would have no effect on the relict trillium.

Sweet Pitcher-plant, *Sarracenia rubra*

Federal Status: Not listed

State Status: Endangered

The sweet pitcher-plant is state listed as endangered. It is not a federally listed species. The sweet pitcher-plant is a perennial herb that may be up to 30 inches tall with hollow leaves that are green with some red or purplish veins. A hood curves over the orifice with a sharply pointed tip and a network of

reddish veins. The flower is an umbrella-shaped style, 1 to 1.5 inches in diameter, which are fragrant, solitary, and usually exceed the leaves. The petals are maroon above and sometimes gray or dull purple beneath. The flowering period is April to May. The preferred habitat for the sweet pitcher-plant consists of acid soils of open bogs, sandhill seeps, Atlantic white-cedar swamps, wet savannahs, low areas in pine flatwoods, and along sloughs and ditches.

The Georgia Natural Heritage Database does have a record for this species approximately 2.5 miles east of the project area. No habitat exists within the project area for the sweet pitcher-plant nor were any individuals observed during the field habitat survey. The aforementioned habitats preferred by this species do not exist within the project study area and all sloughs, streams, and ditches were traversed during the wetland delineation for this project and no pitcher-plants of any variety were encountered. The project would have no effect on the sweet pitcher-plant.

Rafinesque's Big-eared Bat, *Corynorhinus rafinesquii*

Federal Status: Not listed

State Status: Rare

The Rafinesque's big-eared bat is considered by the GDNR to be rare and is a state protected species. It is not a federally listed species. The Rafinesque's big-eared bat is a medium-sized bat that ranges from 3.7 to 4.1 inches in total length with very long ears, over 1-inch in length and joined in the middle. The preferred roosting habitat includes buildings, old mine shafts, wells, caves, hollow trees, areas behind loose bark, and crevices in rock ledges. It becomes active only in complete darkness.

The Georgia Natural Heritage Database does have a record for this species approximately 1.0 mile northeast of the project area. Given the habitat description for the Rafinesque's big-eared bat, habitat may exist within the project study area, and as expected given the times this species is active, no individuals were observed during the field habitat survey. No preferred roosting habitats listed above were noted during the habitat survey; however, the underside of nearby bridges could offer adequate roosting habitat.

Given that the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, the proposed project would have no effect on the Rafinesque's big-eared bat.

Yellow Flytrap, *Sarracenia flava*

Federal Status: Not listed

State Status: Rare The yellow flytrap is considered by the GDNR to be rare and is a state protected species. It is not a federally listed species. The yellow flytrap is a large perennial herb growing to 37-inches tall, with hollow trumpet-shaped leaves that are greenish-yellow with suberect hoods with reddish-purple splotch at the base. The preferred habitat for the yellow flytrap is acidic soils of seepy meadows, bogs, wet savannahs, and pine flatwoods, sometimes along ditches and sloughs.

The Georgia Natural Heritage Database does have a record for this species approximately 2.5 miles east of the project area. No habitat exists within the project area for the yellow flytrap nor were any individuals observed during the field habitat survey. The aforementioned habitats preferred by this species do not exist within the project study area. All sloughs, streams, and ditches were traversed during the wetland delineation for this project, and no flytraps of any variety were encountered. The proposed project would have no effect on the yellow flytrap.

Bald Eagle, *Haliaeetus leucocephalus*

Federal Status: Not listed

State Status: Threatened

The bald eagle was removed from the federal list of threatened and endangered species on June 28, 2007. The bald eagle is still federally protected by the provisions of the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act (MBTA). The state of Georgia lists the bald eagle as threatened. Bald eagles find habitat along inland waterways and estuarine areas in Georgia, selecting areas with low

human disturbance, suitable forest structure, and abundant prey. The bald eagle likes to nest mainly in the largest tree in its chosen territory and to have many available perching sites. Nest sites along rivers are typically close to the shores with large aquatic areas and little forest edge. Lake nest sites are usually near water with super-dominant trees and little overall human disturbance. This species prefers nesting within 0.5 mile of water and a clear path to that water and usually forages within approximately 1.0 mile of its nest site.

The USFWS removed the bald eagle as threatened under the ESA on August 8, 2007, and in May 2007 published the National Bald Eagle Management Guidelines to assist the public to understand protections afforded to and prohibitions related to the bald eagle under the Bald and Golden Eagle Protection Act (16 USC 668-668d), the MBTA (16 USC 703-712), and the Lacey Act (16 U.S.C. 3371-3378). The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. It defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Act's guidelines define "disturb" as: "'To agitate or bother a bald or golden eagle to the degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, causing injury, death, or nest abandonment. In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment."

No bald eagles or their nests were observed within the project area. The Georgia Natural Heritage Database does not have any records for the Bald eagle within three (3) miles of the project area; however, they may forage within (3) miles of the site in the Ocmulgee River adjacent to the project study area. According to a recent email received from Mr. Jim Ozier of the Georgia Wildlife Resources Division (GWRD) the nearest known bald eagle nest is located 6.5 miles south-southeast of the midpoint of the project study area. Bald eagles are typically more tolerant to noise and other anthropogenic activities while

foraging. Neither nests nor foraging areas are located within the defined project area and the use of the project area by humans would not preclude or hinder nearby foraging activities (if any), therefore the proposed project would not result in a "take" of bald eagles.

Build Alternative

Direct Effects

Table 3 above states the impact on each of the possible protected species. The protected species and their habitat were not found in the project area for any listed species. Given the small nature of the project, impacts are not anticipated to extend far beyond the project boundaries. Once the construction is completed, the impacts of visitor use and trail maintenance would not be new to the general area since the project would predominantly be in a national park with five miles of similar existing trails. Further, the project area including OCMU is in the urbanized area of the City of Macon. Consequently, the species around the project area have likely acclimated to these activities.

The proposed project would have no effect on all protected species. FHWA concurred with this effect determination on November 24, 2010 (Appendix B).

Indirect Effects

Table 3 lists the effect determination on each of the possible protected species. None of the protected species or their habitats was found in the project area. The Rafinesque's big-eared bat may utilize bridges near the project area, but as described in the affected environment section, due to the fact the bridges which could provide potential roosting habitat would not be affected by the project and the use of the trail during the active times for this species (total darkness) would be negligible and not hindering to the potential continued use by the species, a no-effect determination for the Rafineque's big-eared bat is warranted. With the lack of protected species in the project area and negligible effects from the proposed project with regards to the natural environment, such as water quality, no indirect effects (negligible impacts) are expected.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

The proposed project would have no effect on listed species due to lack of individuals and their habitat in the project area. Thus, there would be no direct, indirect, or cumulative effects (negligible impacts) to protected species.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, there would be no direct, indirect, or cumulative effects (negligible impacts) to protected species.

8. Wildlife Habitat

As directed under Executive Order (EO) 13186, in furtherance of the MBTA (16 USC 703-711), actions must be taken to avoid or minimize impacts to migratory bird resources and to prevent or abate the detrimental alteration of the environment for the benefit of migratory birds, as practicable. The Migratory Bird Treaty Act protects over 1,500 migratory bird species (see 50 C.F.R. 10.13, List of Migratory Birds) in the U.S. and its territories.

GDOT assesses potential impacts to migratory birds that may result from the fragmentation of large tracts of contiguous habitat. In these areas, the communities surrounding tracts of habitats that may be impacted and the existing disturbances to these communities are evaluated. Soil disturbances and the slight disturbance to the vegetative communities could attract predators, nest parasites, and invasive plant species into areas adjacent to the proposed project, thus available foraging and nesting habitats for bird species requiring contiguous tracts and other vegetative communities are surveyed for potential impacts.

In addition, for projects where rock overhangs occur, or where bridges, culverts, and/or pipes exist, which may be reconstructed or demolished, the GDOT surveys for the nests of birds such as barn swallow (*Hirundo rustica*), cliff swallow (*H. pyrrhonota*), and Eastern phoebe (*Sayornis phoebe*).

Build Alternative

Direct Effects

The project study area includes four bridges (Martin Luther King Jr. Boulevard, the railroad trestle, I-16, and the footbridge under the I-16 bridge), and one culvert located at a crossing of S1 (within the survey area, but north of the location of the proposed trail crossing of S1). None of these structures would be directly affected by the proposed project and therefore they were not surveyed for the presence of migratory birds or their nests. No other bridges, pipes, or culverts are located within the project area.

The proposed project would not fragment a large, mature tract of forest or other vegetative communities within the project area. The project would have negligible effect on migratory bird species

utilizing the communities surrounding the project corridor due to the limited land that would be impacted and the existing disturbance to these communities. The project would not alter the composition of the communities adjacent to the proposed improvements. No direct effects (negligible impacts) would occur to migratory birds as a result of the implementation of the proposed project.

Indirect Effects

Soil disturbance and the slight disturbance to the vegetative communities could attract predators, nest parasites, and invasive plant species into areas adjacent to the project limits, but available foraging and nesting habitat for bird species requiring large forested tracts and other vegetative communities would not be affected. Indirect effects to migratory birds include the potential for increased predation, introduction of nest parasites, and potential for increased introduction of invasive species into adjoining areas. These indirect effects would be considered minor, short- and long-term, localized, adverse impacts.

Cumulative Effects

The planned Otis Redding Loop Trail is an adjoining project that would have impacts similar in nature to the proposed project. As such, the cumulative effects to migratory birds would likely be a result of the potential for increased predation, potential increase in nesting parasites being introduced, and the potential for an increase in invasive plants species introductions to areas adjoining the trail. These effects would be considered minor, localized, short- and long-term, adverse impacts.

Conclusion

The proposed project would not directly affect migratory birds. Indirect and cumulative effects would be considered minor, localized, and adverse in nature.

No-Build Alternative

Direct Effects

Under this alternative, there would be no new activities, so no direct effects (negligible impacts) would occur.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect effects (negligible impacts) would occur.

Cumulative Effects

Given the fact there would be no foreseeable direct or indirect effects, there would be no cumulative effects (negligible impacts).

Conclusion

In the absence of new activities, there would be no direct, indirect, or cumulative effects (negligible impacts) to migratory birds.

9. Invasive Species

In accordance with EO 13112, the population of invasive species that may be spread during construction was surveyed. Those invasive species have been identified by GDOT as having the highest priority due to environmental and economic impacts. Both the selected species and the management practices would be re-evaluated and revised as more information is obtained.

Chinese privet (*Ligustrum sinense*), which is the dominant understory species, Japanese honeysuckle (*Lonicera japonica*), tree-of-heaven (*Ailanthus altissima*), alligatorweed (*Alternanthera philoxeroides*), English ivy, (*Hedera helix*), Japanese knotweed (*Polygonum cuspidatum*), common chickweed (*Stellaria media*), and kudzu (*Pueraria montana*) were found in the project area during field studies conducted between April 29 and June 26, 2009.

Build Alternative

Direct Effects

During the construction process, GDOT would take measures to prevent or minimize the spread of these species as appropriate for the time of the year. These measures would include removal and disposal of vegetative parts in the soil that may reproduce by root raking, such as burning onsite any such parts and aboveground parts that bear fruit, controlling or eradicating infestations prior to construction, and cleaning of vehicles and other equipment prior to leaving the infested site. The measures implemented would be appropriate for the particular species and the specific site conditions, as described in Georgia Standard Specifications Section 201, Clearing and Grubbing of Right-Of-Way. With the measures described above in place, the direct effects would be minor, local, short-term, and beneficial with the removal of some invasive species and the prevention of infestations.

Indirect Effects

Because some of the invasive species along the route would be removed and replaced with native species, the outcome would be fewer invasive species in the project area. However, visitors may introduce species by walking off the trail between infested and not infested areas or arrive with infested equipment. NPS encourages people to stay on trails to help reduce the introduction and spread of invasive species. Even if visitors stayed on the trail, invasive species can still be deposited into the soil below the gravel if transported on the shoes of visitors. Given the heavy infestations of exotic species, these possible pathways would be expected to result in indirect effects that would be considered minor, local, long-term, and adverse.

Cumulative Effects

Regulations and BMPs described above would continue to be used to limit the spread of invasive species with some programs aiming to remove these species. However, removal of invasive species is difficult and requires substantial resources. Current infestations are spreading, and more species are being

or may be introduced. The proposed project would negligibly contribute to cumulative effects despite removing invasive species because of the small size of the project. Cumulative effects would be beneficial because of efforts to remove infestations and limit the introduction of additional invasive species. However, the improved accessibility to this area would increase the possibilities for introducing invasive species, especially with the connection of the Otis Redding Loop Trail. Therefore, the overall cumulative effects would be minor, local, long-term, and adverse.

Conclusion

The project involves removal of some infestations at the small project site mostly during construction, which would reduce the available habitat for invasive species and could act as a barrier for the spread of species. Further, BMPs would be enacted to prevent the introduction of invasive species from the project's activities during construction. Thus, the proposed project could reduce the amount of invasive species in this small area resulting in direct beneficial effects. However, the improved accessibility could increase the possibilities for introducing species, so the indirect and cumulative effects would be minor, local, long-term, and adverse.

No-Build Alternative

Direct Effects

Under this alternative, the removal of invasive species from the project site would not occur. This would mean that these species would continue to spread. The project area would have continued maintenance activities. Since the machinery would be subject to the same regulations as described above, there should be negligible opportunities for introduction of new species. However, the proposed project site is small, and the invasive species are found in other areas of the OCMU and other nearby areas. Consequently, the direct effects from this alternative would be minor, long-term, local, and adverse.

Indirect Effects

There would be no new activities, so there would be no indirect effects (negligible impacts).

Cumulative Effects

It is assumed that the current regulations and BMPs would continue their attempt to stop the spread of invasive species with some programs aiming at removing these species. However, removal of invasive species is difficult and takes substantial resources, current infestations are spreading, and more species are being or threaten to be introduced. Due to small size of the project and that these invasive species exist in other patches nearby, this alternative would contribute to negligible adverse impacts because the site would continue to provide a pathway for invasive species to spread, which becomes more probable with time. The Otis Redding Loop Trail would provide a new pathway nearby for visitors to introduce invasive species via infested equipment which could then spread to the project area. Thus, cumulative effects would be minor, long-term, local, and adverse.

Conclusion

Because the no-build alternative allows for the continued presence and spreading of invasive species in the small project site by not removing them, this alternative would allow for continued and possibly increased invasive species in and around the project site. The direct and cumulative effects would be minor, long-term, local, and adverse with no indirect effects (negligible impacts) due to lack of new activities.

F. Affected Environment and Effects on the Physical Environment

1. Noise

In compliance with 23 USC Section 109(h) and (i), the Federal Highway Administration (FHWA) established guidelines for the assessment of highway traffic-generated noise. These guidelines, published as Part 772 of Title 23 of the Code of Federal Regulations (23 CFR 772), provide procedures to be followed in conducting noise analyses that will protect the public health and welfare. In accordance with the Noise Control Act of 1972, coordination of this regulation with the Environmental Protection Agency has been completed. Further, Highway Traffic Noise: Analysis and Abatement Guidance (Guidance) was

issued in July 2010 (revised January 2011) by the FHWA. The subject project has been reviewed to determine the need for a noise analysis. Based on FHWA guidelines for the assessment of highway traffic-generated noise, no further noise investigation is required. The noise assessment was prepared in accordance with 23 CFR Part 772, was approved by GDOT and sent to FHWA May 1, 2012 (see Appendix B).

Build Alternative

Direct Effects

The Noise Impact Assessment determined that there was no need for detailed noise investigation due to the fact that the project does not increase the number of through lanes and does not have a significant change in road alignment. During construction, the use of heavy machinery may introduce some noise level increases, but these activities would be short in duration due to the construction period of less than a year. Similarly, maintenance of the approximately 1.2-mile trail involving heavy machinery would be temporary and an infrequent source of noise. No sensitive receptors (such as hospitals) exist in the immediate vicinity of the project besides the OCMU, and performing maintenance only during business hours would minimize these impacts. The increase in noise levels from people using the trail would be negligible. Recreational use is the intended land use for this area of OCMU and is compatible with the surrounding recreational and interpretive areas. Thus, the direct noise impacts would be minor, short-term, and local.

Indirect Effects

No indirect noise effects (negligible impact) would be expected to be induced as a result of the construction of the proposed project.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Construction of these two trail projects

would both likely have minor, short-term, direct effects on ambient noise levels; however, due to different construction schedules would not be significant. Therefore, cumulative effects would likely be minor, short-term and not adverse in nature.

Conclusion

The project would have minor, short-term localized direct effects; no indirect effects (negligible), and minor, short-term cumulative effects as a result of the construction of the expanded trail network and increased accessibility of portions of the OCMU.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the ambient noises would not be altered since no construction would occur and no additional access would be provided for pedestrians; thus, there would be no direct noise effects (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on ambient noise levels to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in ambient noise levels would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

2. Air

An Air Assessment was prepared for the proposed project, which presented determinations for four priority air pollutants: ozone, carbon monoxide, Mobile Source Air Toxics (MSAT), and Particulate Matter$_{2.5}$ ($PM_{2.5}$). GDOT submitted the approved Air Assessment to FHWA on May 1, 2012 (See Appendix B: Correspondence). Results indicate that the proposed project complies with both State and Federal air quality standards.

The Clean Air Act section 176(c) requires that Federal transportation projects are consistent with state air quality goals, found in the State Implementation Plan (SIP). The process to ensure this consistency is called Transportation Conformity. Conformity to the SIP means that transportation activities will not cause new violations of the national ambient air quality standards (NAAQS), worsen existing violations of the standards, or delay timely attainment of the relevant standard.

Transportation conformity is required for Federal transportation projects in areas that have been designated by the EPA as not meeting the NAAQS. These areas are called nonattainment areas if they currently do not meet air quality standards or maintenance areas if they have previously violated air quality standards, but currently meet them and have an approved maintenance plan. On January 5, 2005, The US EPA designated several non-attainment areas within the State of Georgia, including the Macon Area comprised of Bibb County and a portion of Monroe County, for fine particular matter, called PM 2.5. This designation became effective on April 5, 2005, 90 days after EPA's published action in the Federal Register. Transportation Conformity for the PM 2.5 standards applies as of April 5, 2006, after the one year grace period provided by the Clean Air Act. Metropolitan PM 2.5 nonattainment areas are now required to have a transportation improvement program (TIP) and long range transportation plan (LRTP) that conforms to the PM 2.5 standard.

In addition to PM 2.5 assessments, MSAT assessments are required statewide for most federal transportation projects. Based on the example projects defined in the FHWA guidance "*Interim Guidance*

Update on Mobile Source Air Toxic Analysis in NEPA Documents," dated December 6, 2012, the construction of a multi-use trail would be classified as a project with No Meaningful MSAT Impact.

Ozone

This project is in an area where the State Implementation Plan contains transportation control measures. The Clean Air Act requires Transportation Plans and TIPs in areas not meeting the National Ambient Air Quality Standards to conform to the emissions budget of the State Implementation Plan for air quality. The FY 2012-2015 TIP is the current adopted plan for the Atlanta region showing the region's highest transportation priorities. It was adopted by the Macon-Bibb County Planning and Zoning Commission (MBCPZC) on June 1, 2011 and was approved by US DOT on June 30, 2011.

This project is identified in the Macon MBCPZC Fiscal Year 2012-2015 TIP by reference number MCN-TEA-1 with Lump Sum funding.

Carbon Monoxide (CO)

The project was evaluated for the potential to result in increased CO concentrations in the project area. Based on project type it has been determined that this project would not increase traffic congestion or increase idle emissions and CO concentrations therefore the project is consistent with state and federal air quality goals for CO.

PM 2.5 Qualitative Analysis

This project has been evaluated by an interagency group consisting of FHWA, EPA, EPD and the MPO and was found to be exempt from the PM2.5 hot spot requirements on June 12, 2009 (see Appendix B).

Mobile Source Air Toxics

MSAT assessments are required statewide for most federal transportation projects. Based on the example projects defined in the FHWA guidance "*Interim Guidance Update on Mobile Source Air Toxic*

Analysis in NEPA Documents," dated December 6, 2012, the construction of a multi-use trail would be classified as a project with No Meaningful MSAT Impact.

The purpose of this project is to construct a multi-use paved trail. This project has been determined to generate minimal air quality impacts for CAA criteria pollutants and has not been linked with any special MSAT concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause an increase in MSAT impacts of the project from that of the no-build alternative.

Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOBILE6.2 model forecasts a combined reduction of 72 percent in the total annual emission rate for the priority MSAT from 1999 to 2050 while vehicle-miles of travel are projected to increase by 145 percent. This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/ncea/iris/index.html). Each report contains assessments of non-

cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents. Among the adverse health effects linked to MSAT compounds at high exposures are cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, http://pubs.healtheffects.org/view.php?id=282) or in the future as vehicle emissions substantially decrease (HEI, http://pubs.healtheffects.org/view.php?id=306).

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable. The results produced by the EPA's MOBILE6.2 model, the California EPA's Emfac2007 model, and the EPA's DraftMOVES2009 model in forecasting MSAT emissions are highly inconsistent. Indications from the development of the MOVES model are that MOBILE6.2 significantly underestimates diesel PM emissions and significantly overestimates benzene emissions.

Regarding air dispersion modeling, an extensive evaluation of EPA's guideline CAL3QHC model was conducted in an NCHRP study (http://www.epa.gov/scram001/dispersion_alt.htm#hyroad), which documents poor model performance at ten sites across the country - three where intensive monitoring was conducted plus an additional seven with less intensive monitoring. The study indicates a bias of the

CAL3QHC model to overestimate concentrations near highly congested intersections and underestimate concentrations near uncongested intersections. The consequence of this is a tendency to overstate the air quality benefits of mitigating congestion at intersections. Such poor model performance is less difficult to manage for demonstrating compliance with National Ambient Air Quality Standards for relatively short time frames than it is for forecasting individual exposure over an entire lifetime, especially given that some information needed for estimating 70-year lifetime exposure is unavailable. It is particularly difficult to reliably forecast MSAT exposure near roadways, and to determine the portion of time that people are actually exposed at a specific location.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI (http://pubs.healtheffects.org/view.php?id=282). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (http://www.epa.gov/risk/basicinformation.htm#g) and the HEI (http://pubs.healtheffects.org/getfile.php?u=395) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine a "safe" or "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks

from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than safe or acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

Construction

All phases of construction operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations.

The EPA has listed a number of approved diesel retrofit technologies; many of these can be deployed as emissions mitigation measures for equipment used in construction. This listing can be found at: www.epa.gov/otaq/retrofit/retroverifiedlist.htm.

Conclusion

This project was evaluated for its consistency with state and federal air quality goals, including CO, Ozone, PM 2.5 and MSATs as part of this assessment. Results indicated that the project is consistent with the State Implementation Plan for the attainment of clean air quality in Georgia and is in compliance with both state and federal air quality standards.

Build Alternative

Direct Effects

Direct effects would be expected as a result of the construction of the proposed project. All phases of construction and potentially long-term maintenance operations would temporarily contribute to air pollution. Particulates would increase slightly in the corridor as dust from construction collects in the air surrounding the project. The construction equipment would also produce slight amounts of exhaust emissions. The Rules and Regulations for Air Quality Control outlined in Chapter 391-3-1, Rules of Georgia Department of Natural Resources' Environmental Protection Division, would be followed during the construction of the project. These include covering earth-moving trucks to keep dust levels down, watering haul roads, and refraining from open burning, except as may be permitted by local regulations. The direct effects expected as a result of the construction of the proposed project are likely to be minor impacts while construction activity is occurring and would be expected to be relatively localized and short-term in nature.

Indirect Effects

No indirect effects (negligible impact) on air quality would be expected to be induced as a result of the construction of the proposed project.

Cumulative Effects

The proposed project would tie into the planned Otis Redding Loop Trail, which would create a more complete trail network, with greater access to the OCMU, as well as more connectivity for users to other points within downtown Macon along the Ocmulgee River. Construction of these two trail projects would

both likely have minor, short-term, direct effects on ambient air quality; however, due to different construction schedules would not be significant cumulatively. Therefore, cumulative effects would likely be minor, short-term and not adverse in nature.

Conclusion

The project would have minor, short-term localized direct effects; no indirect effects (negligible), and minor, short-term cumulative effects on ambient air quality as a result of the construction of the expanded trail network and increased accessibility of portions of the OCMU.

No-Build Alternative

Direct Effects

Under this alternative, the trail network would not be constructed and the ambient air quality would not be altered since no construction would occur; thus, there would be no direct air effects (negligible impact).

Indirect Effects

Without the proposed trails construction, there would be no indirect effects (negligible impact).

Cumulative Effects

Under this alternative, the trail network would not be constructed and the connection between the existing OCMU trails and the proposed Otis Redding Loop Trail would not be completed. Since the proposed project extension would not occur and no direct or indirect impacts would occur from the no-build alternative, it is not reasonable to attribute any cumulative effects (negligible impact) on ambient air quality to this alternative.

Conclusion

As the proposed trail extension would not occur, changes in ambient air quality would not be altered from existing conditions. Thus, there would be no direct, indirect, or cumulative effects (negligible impact).

3. Climate Change

The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The Transportation sector is the second largest source of total greenhouse gas emissions (GHG) in the U.S. and the largest source of carbon dioxide (CO_2) emissions – the predominant GHG. In 2004, the transportation sector was responsible for 31% of all U.S. CO_2 emissions. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which accounts for approximately 80% of anthropogenic emissions of carbon worldwide. Almost all (98%) of transportation-sector emissions result from the consumption of petroleum products such as motor gasoline, diesel fuel, jet fuel, and residual fuel.

To date, no national standards have been established regarding greenhouse gases, nor has the EPA established criteria or thresholds for GHG emissions. On April 2, 2007, the Supreme Court issued a decision in Massachusetts et al. v. Environmental Protection Agency et al. that the EPA does have authority under the Clean Air Act to establish motor vehicle emissions standards for CO_2 emissions. The EPA is currently determining the implications to national policies and programs as a result of the Supreme Court decision. However, the Court's decision did not have any direct implications on requirements for developing transportation projects.

Recognizing these concerns, the FHWA is working with other modal administrations through the Department of Transportation Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportations' contribution to GHGs - particularly CO_2 emissions - and to assess the risks to transportation systems and services from climate change.

Because climate change is a global issue and the emissions changes due to project alternatives are very small compared to global totals, GHG emissions were not calculated for the alternatives considered. The FHWA does not believe it is informative at this point to consider GHG emissions in a project level NEPA document. The climate impacts of CO_2 emissions are global in nature. Further, due to the interactions between elements of the transportation system as a whole, emissions analyses would be less

informative than ones conducted at regional, state, or national levels. Because of these concerns, CO_2 emissions cannot be usefully calculated in this document in the same way that other vehicle emissions are addressed. As more information emerges and as policies and legal requirements evolve, approaches to climate change at both the project and policy level will be reviewed and updated.

4. Energy/Mineral Resources

Build Alternative

Direct Effects

Construction of the proposed project would result in a slight increase in the demand for energy supplies resulting from the manufacture of required materials and actual construction activities, as well as long-term maintenance activities. Heavy machinery and other vehicles necessary for the construction phase use fossil fuels. This increase in fossil fuel use should not create a burden on available supplies of fuel. No lights would be installed along the trail extension, so operational energy requirements would be negligible. The impact of the proposed action is not significant in the context of regional energy usage and direct effects on energy/mineral resources would be negligible and short-term.

Indirect Effects

Indirect effects on energy and mineral resources would be minimal. By the creation of a more connected, accessible, and utilized trail network could actually decrease energy and mineral resource consumption by creating more desirable recreational opportunities in close proximity to the urbanized Macon area. However, these indirect effects as a result of the proposed project would be insignificant in the context of regional energy use and would be negligible, long-term impacts.

Cumulative Effects

It would be expected that cumulative increases in energy and mineral resource usage would occur in the foreseeable future as a result of future development. However, it is not reasonable to assume that any cumulative increase in energy consumption or loss of mineral resources in the area could be attributed to the proposed project; therefore, there would be no cumulative effects (negligible impacts).

Conclusion

The proposed project would have negligible, short-term direct effects; negligible, long-term indirect effects; and no cumulative effects on energy/mineral resources.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and no energy or mineral resources would be expended; therefore, there would be no direct effect (negligible) on energy/mineral resources.

Indirect Effects

No indirect effects (negligible impacts) would occur to energy/mineral resources as a result of not constructing the proposed project.

Cumulative Effects

It would be expected that cumulative increases in energy and mineral resource usage would occur in the foreseeable future as a result of future development. However, it is not reasonable to assume that any cumulative increase in energy consumption or loss of mineral resources in the area could be attributed from the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No new activities would be introduced under this alternative as the trail extension would not occur, so there would be no direct, indirect, or cumulative impacts on energy/mineral resources.

5. Construction/Utilities

The safety and convenience of the general public and residents of the area would be provided for at all times. Any necessary relocation of utilities, water, sewer, telephone, etc., would be accomplished without long term interruption of services. All other required construction functions would be accomplished in a timely and orderly fashion so that disruptions are negligible, short in duration, and do

not compromise safety. All other impacts from construction are considered in terms of the resource affected.

6. Underground Storage Tanks/Hazardous Waste Sites

No National Priorities List Sites, which are hazardous waste sites, exist in Bibb County (USEPA, 2009b). Further, there are no known underground storage tanks located within the project area (GEPD, 2009).

G. Affected Environment and Effects on NPS Resources[4]

1. Visitor Use and Experience/Recreation

DO-12, the Director's Order that directs NPS on implementing NEPA, requires NEPA documents to include consideration of visitor use and experience as well as recreation. Section 8.2 of the 2006 *Management Policies* also directs NPS to consider this resource in its activities (NPS, 2010b).

The OCMU currently offers year-round recreational and educational opportunities, and for the past 5 years has averaged 125,211 visitors annually (NPS, 2010a; NPS, No date). The proposed trail, which would be ADA compliant, extends the existing network of approximately six miles of trails within the 702-acre OCMU. The educational program covers the 12,000 years of proven history at the site including mounds. Partnerships with twelve Native American Tribes enhance the interpretation and education for park visitors (NPS, 2007).

Build Alternative

Direct Effects

Disruptions to visitor use of existing OCMU trails during construction of the proposed extension would be negligible and short-term. There would be negligible disruption of transportation from the

[4] These sections are required to be analyzed per DO-12 direction.

construction of this project due to its small size and its separation from the larger transportation network, which means little traffic congestion and delays for visitors and the surrounding community. The build alternative would enhance visitor use and experience and recreation by offering a new trail and views as well as access to the southwestern portion of OCMU. This would be an improvement for this resource.

Although the proposal includes approximately 1.2 miles of trail extension with no new interpretation, the new trail would somewhat increase visitor use on the existing five miles of trails, which also have interpretative opportunities. Accordingly, the proposed trail could increase visitor use to OCMU and could encourage longer visits at OCMU by those already visiting. This increase in visitor activity throughout OCMU would likely be at a level that is readily apparent but not obtrusive.

There would be long-term beneficial impacts to visitor use; thus, the direct effects to visitor use and recreation from implementing this alternative would be minor, long-term, and beneficial due to the introduction of a trail providing access to the southwestern portion of OCMU and connecting planned and existing trails.

Indirect Effects

Since this trail would link to other proposed and existing trails, the visitor use and experience would be improved. However, there are no planned interpretative facilities, such as signs, or other enhancements for the project area, such as park benches. The project would not induce other park improvements as it is only a 1.2-mile trail. Therefore, there would be no indirect effects (negligible impacts) to visitor use and experience and recreation.

Cumulative Effects

As there are no similar projects planned for OCMU, it can be assumed that the area would continue to be managed by NPS in a manner consistent with the mission or purpose of the park, with the additional benefit of the proposed project providing a minor improvement to recreational opportunities. The Otis Redding Loop Trail is going out to bid in 2011 or 2012 to extend the existing Ocmulgee Heritage Trail

northwest of the proposed project to the Otis Redding Bridge. This extension would also improve access to the OCMU. Any increase in noise from existing sources, such as I-16 traffic, would be negligible and unlikely to have a measurable effect on visitor use or recreation in the OCMU. Therefore, cumulative impacts to visitor use and recreation from ongoing activities and the incremental contribution of the proposal are expected to be minor, long-term and beneficial due to this new trail increasing the available recreational opportunities.

Conclusion

Under this alternative, an approximately 1.2-mile trail extension would occur. This would constitute an improvement to visitor use and experience/recreation as it would allow access to the southwestern portion of OCMU. The direct and cumulative effects would be minor, long-term and beneficial due to the introduction of a new trail segment connecting existing trails and providing access to the southwestern part of OCMU. No indirect effects (negligible impact) would be expected as a result of the proposed project.

No-Build Alternative

Direct Effects

Under the no-build alternative, no extension would be created, and the existing trail network would continue, which would not represent change in recreational opportunities and to visitor use and experience. Given the visitor use demand, the lack of a trail in the southwestern portion of the OCMU may cause some inconveniences and dissatisfaction by visitors, but more likely it would represent a lost opportunity for recreation. Overall, the lack of accessibility to the southwestern portion of OCMU would be a minor cause for visitor dissatisfaction as it does not prevent recreational opportunities in the southwestern portion of OCMU. Further, increased visitation could possibly cause congestion on the existing trails in the future. Direct effects to this resource from implementing this alternative would be long-term, minor, local, and adverse.

Indirect Effects

Under this alternative, there would be no new activities, so no indirect impacts would occur.

Cumulative Effects

The Otis Redding Loop Trail could provide the area's visitors with an opportunity for recreation near the Ocmulgee River. However, under the no-build Alternative this opportunity would not be provided at OCMU for its visitors. It can be assumed that the area would continue to be managed by NPS in a manner that is consistent with the mission or purpose of the park without the proposed project. This includes interpretation that benefits visitor use and experience, but this would not represent a change from the current situation. Increased visitation could possibly cause congestion on the existing trails in the future. Thus, cumulative impacts would be long-term, minor, local, and adverse.

Conclusion

Under this alternative, the proposed expansion would not occur. This would not improve the accessibility of the southwestern portion of OCMU. The lack of accessibility in this portion of OCMU would be a minor cause of dissatisfaction in visitor use and experience/recreation as it does not allow for recreational opportunities in the southwestern portion of OCMU. Thus, direct and cumulative impacts are long-term, minor, local, and adverse. There would be no indirect impacts.

2. Human Health and Safety

Public safety and health is one of the considerations for the project's significance (40 CFR §1508.27) (NPS, 2010b). Additionally, NPS evaluates impacts to employee safety and visitor safety per direction of DO-12. Two groups of public safety concerns with this project exist: trail construction workers/employees and subsequent users of the trail.

Build Alternative

Direct Effects

The NPS employees, maintenance workers, and construction workers would be subject to the same types of health risks generally associated with their professions. Industry standards and the Occupational Safety and Health Act (29 CFR Parts 1900-2400) would be followed including restricting the construction area to employees and necessary personnel as well as donning appropriate safety equipment, such as safety glasses and hearing protection. Visitors would be restricted from access to the constructions site until the trail is completed. Therefore, overall impacts to human health and safety would be negligible and short-term.

Indirect Effects

Post-construction, visitors would only be subject to the same risks (tripping, sunburn, dehydration, etc.) that are typically associated with park visitation during operation. Due to the increased trail length and the trails location in an outdoor environment, visitors would be exposed to more opportunities to experience such hazards and with no trail amenities such as shelters, water fountains, etc… minor indirect effects could occur on human health and safety as a result of construction of the proposed project. These effects would most likely be considered minor and long-term in duration as the potential hazards would be present for the life of the trail.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. Completion of the overall trail network would likely increase the trails use and provide more access points for users. The increase in access points could be considered a beneficial, albeit minor, long-term cumulative effect on human health and safety for the overall trail network. Conversely, increased trail length with no additional amenities could also increase the risk for accidents, dehydration, or sunburn due to the likely longer exposure to users. These risks would be considered a minor, long-term cumulative effect that could be considered a beneficial or adverse impact.

Conclusion

Construction of the proposed project would have negligible direct effects (negligible impacts per NPS language), minor and long-term indirect and cumulative effects as a result of the increased length of the trail and the resultant associated hazards present for the life of the trail.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to human health and safety would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to human health and safety as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to human health and safety could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

The no-build alternative for the proposed project would not have direct, indirect, or cumulative effects on human health and safety (negligible impacts).

3. Visual Resources

Section 4.7 of NPS's 2006 *Management Policies* addresses visual resources and states that scenic views and visual resources are highly valued associated characteristics (NPS, 2010b).

Build Alternative

Direct Effects

Construction would remove and disturb some vegetation immediately adjacent to the proposed trail on the OCMU. This disturbance would detract from the immediate view surrounding the proposed trail. However, construction would be temporary, and the removed vegetation would be replaced with native species. The trail design would be compatible with the area's view and use as a recreational area. Vegetation and distance would shield from view the construction and operation of the trail from other locations, which would reduce potential objections from observers. The visual resources ultimately would be improved as a direct effect of the proposed project, due to the increased amount of the park accessible to the park's visitors as a result of the trail extension. Therefore, direct impacts as a result of construction of the proposed project would represent minor, short- and long-term impacts, beneficial impact on visual resources.

Indirect Effects

Indirect effects (negligible impacts) on the visual resources within the park are not expected as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. However, this is also a small trail expansion with limited amenities, so its impacts would be similar to the Walnut Creek Extension. Completion of the overall trail network would likely increase the trails use and provide a longer trail network for users of the trails and park. As a result of a longer, more interconnected trail network, visual resources would be cumulatively affected due to the increased amount of park lands accessible to the trail users. These cumulative effects would likely be minor, short- and long-term impacts that would be considered beneficial.

Conclusion

Construction of the proposed project would create more opportunities for users of the park to appreciate the visual resources. The build alternative for the proposed project would have minor, short- and long-term direct and cumulative effects on visual resources. These effects would be considered beneficial. No indirect effects are expected to visual resources within the park as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to visual resources within the park would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to visual resources as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to visual resources could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to visual resources within the park would be expected as a result of not implementing the build alternative for the proposed project.

4. Park Operations

NPS requires analysis of a proposed project on its staffing, operations, facilities, and equipment as well as visitor and employee safety at its parks (NPS, 2010b). Ocmulgee Heritage Trail, Limited Liability Corporation (LLC), not NPS, is funding the construction of the proposed trail.

Build Alternative

Direct Effects

NPS would continue to own the portion of the proposed trail on NPS land as well as maintain that portion of the proposed trail. This trail extension adds 6,500 feet or 1.2 miles to the five miles of current trails at OCMU. The increased time and money to maintain this extension would be a direct impact to park operations; however, it would be minor in relation to the overall budget of the OCMU and the existing trail maintenance regime. The direct effects would be considered long-term in nature since they would last for the life of the trail.

Indirect Effects

No indirect effects (negligible impacts) on the park operations are expected as a result of the proposed project.

Cumulative Effects

The OCMU has approximately five miles of existing trails, a museum and other structures and facilities to maintain. Although the proposed trail is expected to add additional trail length to the existing trails within the park that would need to be maintained, the expected expenditure of time and money for maintenance has been researched and deemed to be minor in relation to the overall park budget. Therefore, no cumulative effects (negligible impacts) on park operations are expected to occur as a result of the interaction of the proposed project on the existing operations of the park.

Conclusion

Construction of the proposed project would require additional monies be available in the OCMU budget for maintenance of the trail and would required additional time from the OCMU staff to perform maintenance operations. The build alternative for the proposed project would have minor, long-term direct effects on park operations. These effects would not be considered adverse. No indirect or cumulative effects are expected to park operations as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and changes to park operations would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to park operations as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to park operations could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to park operations would be expected as a result of not implementing the build alternative for the proposed project.

5. Soils

No federal laws pertain specifically to soils. However, Section 4.8 of NPS' 2006 *Management Policies* defines soils as integral to maintaining the park's natural systems (NPS, 2010b). According to the NRCS Bibb County Soil Survey, the soils in the project area are Congaree silt loam. Congaree silt loams are well-drained, deep soils (NRCS, 2002). BMPs would be implemented during construction, such as wetting down exposed soils or laying down straw to prevent erosion. Once the new trail is open to the public, users would be encouraged to remain on the trail in order to prevent erosion and compaction of soil. Furthermore, the trail material would minimize erosion from the pedestrian traffic. As such, the proposed project would likely cause negligible impacts to soils. No further assessment of these resources is required.

Build Alternative

Direct Effects

The proposed 6,500 foot trail extension would directly affect the soil due to the required earth moving activities and site prep associated with the construction of the trail and pedestrian bridge. Congaree soils are fluvial soils formed from the deposition of sediment and due to the projects location in an active floodplain; the soils are still actively forming due to occasional flooding. Soil disturbance would occur as a direct result of construction of the proposed project; however, between plans to follow existing grade for as much of the trail as possible and the fact that Congaree soils are still actively being formed; the direct effects would be minor, adverse, and likely short-term in nature.

Indirect Effects

Construction of the proposed project is not expected to induce any changes within the study area that could affect the park's soils. No indirect effects (negligible impacts) on the soils within the park are expected as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which

is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on soils for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, no cumulative effects (negligible impacts) on soils are expected to occur.

Conclusion

Construction of the proposed project would require soil disturbance to occur. The build alternative for the proposed project would have minor, short-term direct effects on soils. These effects would not be considered adverse. No indirect or cumulative effects are expected to occur to the active floodplain soils as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and soil conditions would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to soils as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to soils could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to park operations would be expected as a result of not implementing the build alternative for the proposed project.

6. Vegetation

Beyond the ESA, no federal laws address general vegetation. However, in Section 4.4 of NPS' 2006 *Management Policies* vegetation is defined as integral to maintaining the park's natural ecosystems (NPS, 2010b). Field surveys were conducted between April 29 and June 26, 2009. Approximately 90% of the project area is mixed hardwoods including hackberry (*Celtis occidentalis*), tree-of-heaven (*Ailanthus altissima*), box-elder (*Acer negundo*), American sycamore (*Plantanus occidentalis*), and river birch (*Betula nigra*), while the dominant understory species was Chinese privet (*Ligustrum sinense*). The remaining 10% of the project area is maintained grass and utility easement. Considering the high amount of invasive species within the mixed hardwood community and the proximity to heavily urbanized areas (e.g. I-16 and City of Macon), the habitats offered by the project area are of low quality from a natural community and wildlife perspective.

Build Alternative

Direct Effects

Vegetation would be disturbed or removed at the site during construction of the proposed project, but the same species occur nearby and the vegetation is of low quality from a natural community and wildlife perspective. Further, some of the removed vegetation would be replaced with native species and the increased impervious surface area would be negligible given the rest of OCMU. Direct effects are expected to occur; however, they are expected to be negligible in comparison to the overall vegetative community in the OCMU. Any alterations in vegetation would likely be minor, short-term, local and beneficial, due to the high amount of invasive plants and the overall low quality habitat the current vegetation provides.

Indirect Effects

Construction of the proposed trail project as mentioned above would require that some vegetation be removed during construction and that native vegetation would replace the removed vegetation post-construction. Visitors may introduce invasive species by walking off the trail between infested and not infested areas or arrive with infested equipment. NPS encourages people to stay on trails to help reduce the introduction and spread of invasive species. Given the heavy infestations of invasive species in the surrounding area, these possible pathways would be expected to result in indirect effects that would be considered minor, local, long-term, and adverse.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on vegetation for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, cumulative effects on vegetation would be expected to be minor, local, long-term, and adverse due to increased pathways for invasive species infestations to occur.

Conclusion

Construction of the proposed project would require vegetative clearing to occur. The build alternative for the proposed project would have minor, short-term, local, beneficial direct effects on the vegetation within the project area. Indirect and cumulative effects are expected to be minor, long-term, local and adverse in nature.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and vegetative communities would not differ from existing conditions; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur to vegetation as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to vegetation could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to vegetation would be expected as a result of not implementing the build alternative for the proposed project.

7. Wildlife

Section 4.4 of NPS' 2006 *Management Policies* defines wildlife as an integral part of maintaining the park's natural ecosystems (NPS, 2010b). Given the urban nature of this project, especially the close proximity to I-16, there was little sign of wildlife during the field surveys between April 29 and June 26, 2009. Raccoon tracks were found along the edges of S1, S2, and the Ocmulgee River. A black racer (*Coluber constrictor*) was found near the edge of S1. There were some other areas that appeared to be utilized for deer beds; however, no deer were actually identified during the field work for the phase II ecology report. In consideration of the high amount of invasive species within the mixed hardwood

community and proximity to heavily urbanized areas (e.g. I-16 and City of Macon), the habitats offered by the project area are of low quality from a natural community and wildlife perspective.

Build Alternative

Direct Effects

The OCMU is located on a 702 acre tract of land bordering the Ocmulgee River. With little wildlife observed during the field study and the poor quality habitat of the small project area; impacts to wildlife would be negligible with the possibility of mobile wildlife moving to less disturbed areas within the OCMU during construction. Further, any mortality of less mobile species should not affect the viability of the species given the little sign of wildlife and small project area. Direct effects on wildlife would be negligible and short-term.

Indirect Effects

The proposed project occurs within a heavily used national park, surrounded by an urbanized area. No induced changes to the area surrounding the proposed project are expected to occur as a result of the proposed project which would affect wildlife. The alteration in vegetative communities could potentially be a benefit to wildlife in the area, but would likely be negligible due to the limited amount of area involved. No indirect effects (negligible impacts) are expected on wildlife as a result of the proposed project.

Cumulative Effects

Construction of the proposed Otis Redding Loop Trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. Due to location, project similarity, and similar construction types, impacts on wildlife for the two projects would be expected to be similar. No cumulative effects from interactions between the proposed project and the Otis Redding Loop Trail project or any other potential projects within the park would be expected to be significant. Therefore, no cumulative effects (negligible impacts) on wildlife are expected to occur.

Conclusion

Construction of the proposed project would alter the existing wildlife habitat due to vegetative clearing and the addition of the trail. The build alternative for the proposed project would have negligible, but possibly beneficial direct effects on the vegetation within the project area. These effects would not be considered adverse. Neither indirect or cumulative effects are expected to be significant as a result of the proposed project (negligible impacts).

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and wildlife would not be affected; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

No indirect effects (negligible impacts) would occur on wildlife as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects on wildlife could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) on wildlife would be expected as a result of not implementing the build alternative for the proposed project.

8. Short-term Uses versus Long-term Sustainability

NEPA regulations 40 CFR§1502.16 call for a discussion of whether an action would make use of resources in the short-term such that their long-term, sustainable use would be jeopardized. The no-build alternative is likely to continue to protect the cultural and historic resources of OCMU in the long-term. The build alternative is likely to offer more recreational opportunities for the OCMU visitors that would increase the appreciation for the site, and create a more sustainable use.

Build Alternative

Direct Effects

Construction of the proposed project would offer more recreational opportunities for the OCMU visitors, as well as providing greater accessibility to areas of the OCMU that were not publicly accessible previously. No direct effects (negligible impacts) on long-term sustainability would occur as a result of the construction of the proposed project.

Indirect Effects

With increased accessibility and greater recreational opportunities for the OCMU, construction of the proposed project could indirectly be beneficial over the long-term to the parks sustainability as a result of the potential for increased appreciation of the site, the amenities within the park, and its archaeological and historical resources. Conversely, increased traffic through an area rich in archaeological resources could be detrimental if not properly managed; however, due to the depth of sedimentation over these resources, they likely would not be affected by increased visitor use in the area. Indirect effects to the long-term sustainability would be expected to be primarily minor, long-term and beneficial.

Cumulative Effects

Construction of the proposed Otis Redding Loop trail may occur during the same time-frame as the proposed project. The proposed project would eventually tie-in to the Otis Redding Loop Trail, which is another proposed trail project that follows the Ocmulgee River floodplain. The Otis Redding Loop Trail is not located within the OCMU; however, it would provide greater accessibility and would increase the

function of the overall trail network, which would be a minor, long-term, beneficial cumulative effect on the long-term sustainability of the park.

Conclusion

Construction of the proposed project would likely be a benefit for the long-term sustainability of the park if properly managed. It would create no direct effects to sustainability, but would create minor, beneficial, long-term, indirect and cumulative effects to long-term sustainability.

No-Build Alternative

Direct Effects

Construction of the proposed trail extension would not occur and long-term sustainability of the OCMU would not be affected; therefore, there would be no direct effect (negligible impacts).

Indirect Effects

Construction of the proposed trail extension would not occur and long-term sustainability of the OCMU would not be affected. No indirect effects (negligible impacts) would occur to long-term sustainability of the OCMU as a result of not constructing the proposed project.

Cumulative Effects

Construction of the proposed project would not occur and therefore the proposed connection between the planned Otis Redding Loop Trail and the existing trail network within the OCMU would not be completed. It is not reasonable to assume that any cumulative effects to long-term-sustainability could be attributed to the no-build alternative for the proposed project and given that there are no direct or indirect effects from the no-build alternative, there would be no cumulative effects (negligible impacts).

Conclusion

No direct, indirect, or cumulative effects (negligible impacts) to long-term sustainability would be expected as a result of not implementing the build alternative for the proposed project.

H. Permits/Variances

1. U.S. Coast Guard Permit

A U.S. Coast Guard Permit is not required for this project because no waters under Coast Guard jurisdiction are involved.

2. Forest Service/USACE Land

The proposed project would not occur on United States Forest Service (USFS) or USACE owned properties.

3. Section 404

In accordance with the USACE Nationwide Permit Program, Regional conditions thereof, and the USACE Savannah District SOP, no compensatory mitigation is required for this project. This project is exempt from mitigation relating to the minor impacts to S1 (only jurisdictional USACE Water of the U.S. within project area) due to the pile supported nature of the bridge span and the minimal amount of streambank disturbance (12 linear feet) (See Section III(E)3:Waters of the U.S. for more details). In accordance USACE Savannah District Regional Condition A6, a pre-construction notification requesting the use of Nationwide Permit #18 for the minor S1 impact will be necessary and issuance needed prior to construction. No national or regional conditions of Nationwide Permit #18 require mitigation for these 12 linear feet of stream impact.

4. Tennessee Valley Authority

There is no Tennessee Valley Authority (TVA) land in the project area; therefore, no TVA permit would be required for the proposed project.

5. Stream Buffer Variance

The project necessitates the crossing of one stream that is considered a state water. The S1 crossing is a perennial, non-tidal, warm water stream. As S1 is a state water, the GEPD regulates activities within the 25-foot warm water vegetative buffer of S1; however given the nature of the project a buffer variance

will not be required under the regulation outlined in the Georgia Erosion and Sedimentation Act of 1975. Due to the project being for a "roadway drainage structure" (i.e., bridge) and no other portion of the project area requiring buffer zone impacts other than this crossing, the project is exempt from needing a buffer variance [O.C.G.A. § 12-7-6 (2009)].

6. Coastal Zone Management Coordination

Bibb County is not a coastal county, so no coastal zone management coordination is necessary.

7. NPDES Permit

The proposed project limits would exceed the 1 acre threshold, and would therefore require a NPDES permit prior to construction activities. Total acreage of the project will be noted on the construction drawings. The NPDES permit requirement has been included in the Environmental Commitments table (attached).

8. Special Use Permit

The trail would be maintained by NPS; therefore, upon completion of the NEPA process, a Special Use Permit would be issued by the park granting access for trail construction.

COORDINATION AND COMMENTS

During the early project development, a number of agencies, including local governments and local planning agencies, were contacted and asked for their comments on the proposed action. Copies of comments received from the responding agencies appear in Appendix A, Correspondence.

GDOT will advertise the availability of this environmental assessment. In addition, the NPS will publish an article about the proposed project in the OCMU newsletter. Any comments concerning this environmental assessment should be addressed to the following:

Mr. Glenn Bowman, P.E.	or	Mr. Rodney N. Barry, P.E.
State Environmental Administrator		Division Administrator
Georgia Department of Transportation		Federal Highway Administration
600 West Peachtree Street		Atlanta Federal Center
16th Floor		61 Forsyth Street, S.W.
Atlanta, GA 30308		Suite 17 T100
		Atlanta, GA 30303-3104

After review of comments received during the comment period, a decision will be made by the responsible officials concerning which alternative will be selected.

IV. LIST OF PREPARERS AND REVIEWERS[5]

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[5] This is a NPS requirement per DO 12.

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VI. GLOSSARY[6]

Alluvial – Sediment transported and deposited in a delta or riverbed by flowing water.

Alternative – A reasonable way to fix the identified problem or satisfy the stated need (40 CFR 1500.2).

Ambient Air – Any unconfined portion of the atmosphere; open air, surrounding air.

Anthropogenic – Human made

Archaeological Resources – Any material of human life or activities that is at least 100 years old, and that is of archaeological interest.

Area of Potential Effects (APE) – The geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties. The APE is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

Attainment Areas – An area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as not exceeding any of the National Ambient Air Quality Standards.

Best Management Practice (BMP) – Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from nonpoint sources.

Bitumen – Mixture of flammable hydrogen and carbon compounds with other substances generally from coal or petroleum.

Brackish Wetlands – Wetlands where water has more salinity than fresh water, but not as much as seawater.

Contamination – Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

Criteria Pollutants – The Clean Air Act requires USEPA to set standards for six common air pollutants. These commonly found air pollutants (also known as "criteria pollutants") are found all over the United States. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead.

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[6] This is a NPS requirement per DO 12. The glossary only contains technical terms.

Critical Habitat – A specific geographic area(s) that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Cultural Resources – Any building, site, district, structure, object, data, or other material significant in history, architecture, archeology, or culture. Cultural resources include: historic properties as defined in the National Historic Preservation Act; cultural items as defined in the Native American Graves Protection and Repatriation Act; archeological resources as defined in the Archeological Resources Protection Act; sacred sites as defined in Executive Order 13007, Protection and Accommodation of Access To "Indian Sacred Sites," to which access is provided under the American Indian Religious Freedom Act; and collections.

Cumulative Impacts – Impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal) or person undertakes such other actions; effects resulting from individually minor, but collectively significant, actions taking place over a period of time.

Direct Effects – Impacts that are caused by, and coincide in time and place, with the action

Ecosystem – A dynamic and interrelating complex of plant and animal communities and their associated non-living environment.

Encroachment – Expansion into an area not previously occupied.

Endangered Species – A species that is threatened with extinction throughout all or a significant portion of its range.

Environmental Assessment (EA) – A concise public document, prepared in compliance with the National Environmental Policy Act, that briefly discusses the purpose and need for an action, alternatives to such action, and provides sufficient evidence and analysis of the impacts to determine whether to prepare an Environmental Impact Statement or Finding of No Significant Impact (40 CFR 1508.9).

Environmental Justice – The confluence of social and environmental movements, which deals with the inequitable environmental burden born by groups such as racial minorities, women, or residents of developing nations.

Environmentally Preferred Alternative – The alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preservers, and enhances historic, cultural, and natural resources.

Executive Order (EO) – Official proclamation issued by the President that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

Finding of No Significant Impact (FONSI) – A document prepared in compliance with the National Environmental Policy Act, supported by an environmental assessment, that briefly presents why a Federal action will have no significant effect on the human environment and for which an environmental impact statement, therefore, will not be prepared (40 CFR 1508.13).

Floodplain – The lowlands and relatively flat areas adjoining inland waters, including flood prone areas, which are inundated by a flood.

Fugitive Dust – Particulate matter composed of soil, uncontaminated from pollutants, resulting from industrial activity. Fugitive dust may include emissions from haul roads, wind erosion of exposed soil surfaces, and other activities in which soil is either moved or redistributed.

Habitat – The natural environment of a plant or animal. An animal's habitat includes the total environmental conditions for food, cover, and water within its home range.

Hardwood – A broad-leaved, deciduous tree as distinguished from a conifer. Trees belonging to the botanical group of angiospermae.

Hazardous Waste – A waste or combination of wastes which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may cause or significantly contribute to an increase in mortality or an increase in serious, irreversible illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Historic Site – The site of a significant event, prehistoric or historic occupation or activity, or structure or landscape whether extant or vanished, where the site itself possesses historical, cultural, or archaeological value apart from the value of any existing structure or landscape (NPS-28, Cultural Resources Management Guideline).

Hydric – Relates to moisture. For example, hydric soils are soils that are so saturated with water that they have oxygen free zones.

Hydrologic Unit Code (HUC) – The eight digit code in the standardized watershed classification system by the United States Geological Survey.

Hydrology indicators – observed inundation, soil saturation, water marks, drift lines, sediment deposits, and drainage patterns in wetlands that indicate a site has a continued wetland hydrologic regime

Hydrophytes – Water loving plants.

Hydrophytic – Water loving

Impairment – is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values.

Impervious– Not permitting passage (such as a fluid) through its substance.

Indirect effects – Impacts that are caused by the action and are later in time but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems including ecosystems.

Invasive Species – An alien (nonnative to the ecosystem) species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Loam – Soils make up of sand, silt, and clay in equal proportions

Metropolitan Planning Organizations – An agency created by federal law to provide local input for urban transportation planning and allocating federal transportation funds to cities with populations of greater than 50,000.

Minority – Individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; African American, not of Hispanic origin; or Hispanic.

Minority Population – Identified where either the affected area's minority population exceeds 50 percent or the affected area's minority population percentage is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Mitigation – Actions taken to improve site conditions by limiting, reducing or controlling adverse impacts to the environment.

National Ambient Air Quality Standards – Standards established on a State or Federal level that define the limits for airborne concentrations of designated "criteria" pollutants (e.g., nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter, ozone, lead) to protect public health with an adequate margin of safety (primary standards) and to protect public welfare, including plant and animal life, visibility, and materials (secondary standards).

National Register of Historic Places (NRHP) – The comprehensive list of districts, sites, buildings, structures, and objects of national, regional, state, and local significance in American history, architecture, archaeology, engineering, and culture kept by the National Park Service under authority of the National Historic Preservation Act of 1966.

Native – A species that historically occurs in an area or one that was not introduced (brought) from another area.

Nonattainment Area – An area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Particulate Matter/Particulates – Small particles in the air generally considered to be pollutants. These may include dust, dirt, soot, smoke, and liquid droplets. $PM_{2.5}$ is particulate matter that is less than 2.5 microns in diameter.

Perennial Stream – A stream that flows throughout the year.

Low-income – Per the Office of Management and Budget's Directive 14, the U.S. Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is poor. If a family's income is less than the threshold for that family, then that family, and every individual in it, is considered poor. Poverty thresholds do not vary geographically; however, they are updated annually for inflation with the Consumer Price Index. The official poverty definition counts money income before taxes and excludes capital gains and noncash benefits, such as housing, Medicaid, and food stamps.

Regional Development Center – A nonprofit that provides services to the member governments, such as consensus-building, creating partnership, and fiscal management.

Right-of-way – An easement or a privilege to pass over the land of another, whereby the holder of the easement acquires only a reasonable and common use of the property

Riparian Areas – Areas with 3-dimensional plant communities of interaction that include terrestrial and aquatic ecosystems. They extend down into the groundwater, up above the canopy, outward across the floodplain, up the near-slopes that drain to the water, laterally into the terrestrial ecosystem, and along the watercourse at a variable width.

Rookeries – A breeding place or colony of gregarious birds or animals

Runners – A slender stem with very long internodes, that arches down to the ground and propagates by producing roots and shoots at the nodes or tips.

Runoff – Non-infiltrating water entering a stream or other conveyance channel shortly after a rainfall.

Section 106 (§ 106) – This is the pre-project consultation to protect cultural resources with mainly the SHPO per National Historic Preservation Act.

Sediment – Any finely divided organic and/or mineral matter derived from rock or biological sources that have been transported and deposited by water or air.

Sedimentation – The process of depositing sediment from suspension in water.

Sensitive Receptor – An area defined as sensitive to noise, such as a hospital, residential area, school, outdoor theater, and protected wildlife species.

Shrub – A plant with persistent woody stems and relatively low growth form; usually produces several basal shoots as opposed to a single bole; differs from a tree by its low stature and not resembling a tree form.

Silt – Fine sediment suspended in stagnant water or carried by moving water that often accumulates on the bottom of rivers.

Sinuosity – A measurement of curves in a stream.

Soil Erosion – The removal and loss of soil by the action of water, ice, gravity, or wind.

Species – All organisms of a given kind; a group of plants or animals that breed together but are not bred successfully with organisms outside their group.

State Historic Preservation Officer (SHPO) – The official within each state, authorized by the state at the request of the Secretary of the Interior, to act as a liaison for purposes of implementing the National Historic Preservation Act.

Stream Buffer Variance – What is required if the 25-foot area around the state waters is encroached.

Stream Buffer Zone – A 25-foot area around streams to protect stream health.

Stream Gauge– A site along a stream where measurements of water surface elevation and/or volumetric discharge (flow) are made.

Threatened Species – A species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Understory – The vegetative lower layer of a forest, which consists of non-woody plants, shrubs, and tree saplings.

Vegetative Buffer – An area of vegetation thick enough that it acts as a buffer to impacts.

Viewshed – Subunits of the landscape where the scene is contained by topography, similar to a watershed.

Wetlands – Areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas.

Wetted – The ability of a liquid to maintain contact with a solid surface, resulting from intermolecular interactions when the two are brought together.

APPENDICES

APPENDIX A:

Early Coordination Correspondence

List of Recipients of Early Coordination Letters

Recipient Name	Title	Company Name 2	Company Name	Address Line 1	Address Line 2	City	State	ZIP Code
James Tillman	State Conservationist		USDA - Natural Resources Conservation Service	Robert G. Stephens Federal building	355 East Hancock Ave	Athens	GA	30601-2769
	Medical Officer		National Center for Environmental Health	4770 Buford Highway		Atlanta	GA	30341
Dara Ritter	Chief	Offices of Regional Services, Eastern Region	U.S. Geological Survey Environmental Affairs Program	12201 Sunrise Valley Drive	Mail Stop 150	Reston	VA	20192
A. Stanley Meiburg	Acting Regional Administrator		U.S. Environmental Protection Agency, Region Four	Atlanta Federal Center	100 Alabama ST S.W.	Atlanta	GA	30303-3104
Sandy Tucker		GA Ecological Services Field Office	U.S. Fish and Wildlife Service	West Park Center, Suite D	105 West Park Drive	Athens	GA	30306
Linda Poythress	Regional Environmental Officer	Regional Office of the Environment	U.S. Department of Housing and Urban Development	40 Marietta Street		Atlanta	GA	30303
Art Frederick	Acting Regional Director	Southeast Region	National Park Service	Building 1924	100 Alabama ST SW	Atlanta	GA	30303
Rick Hatten	Chief	Forestry Management	Georgia Forestry Commission	Box 819		Macon	GA	31298-4599
Vernon Ryle, III	Executive Director		Macon-Bibb County Planning and Zoning Commission	682 Cherry Street, Suite 1000		Macon	GA	31201
Samuel F. Hart, Sr.	Chairman		Bibb County Board of Commissioners	601 Mulberry Street, Suite 407		Macon	GA	31201
Bette-Lou Brown			Historic Macon Foundation	1083 Washington Avenue		Macon	GA	31201
James David			Ocmulgee National Monument	1207 Emery Highway		Macon	GA	31217
Ray Christman			Georgia Trust for Historic Preservation	1516 Peachtree Street NW		Atlanta	GA	30309
Kristina Harpst			Middle Georgia Regional Development Center	175-C Emery Highway		Macon	GA	31217
Lindsay Holliday			Caution Macon	360 Spring Street		Macon	GA	31201
Robert Reichert	Mayor		City of Macon	700 Poplar Street		Macon	GA	31201

Recipient Name	Title	Company Name 2	Company Name	Address Line 1	Address Line 2	City	State	ZIP Code
A. Todd Davison	Director	Flood Insurance & Mitigation Division	Federal Emergency Management Agency	3003 Chamblee-Tucker Road		Atlanta	GA	30341

Example Letter Sent

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

432 ELLIS STREET AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2346, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1566
FACSIMILE 706-722-8379
mail@cranstonengineering.com

THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Ms. Sandy Tucker
Georgia Ecological Services Field Office
U.S. Fish and Wildlife Service
West Park Center, Suite D
105 West Park Drive
Athens, Georgia 30306

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms. Tucker:

On behalf of the Georgia Department of Transportation, Ocmulgee Heritage Trail, LLC, and Macon-Bibb County, Cranston Engineering Group is in the beginning stages of project development for the above noted project. The proposal consists of an expansion from the proposed Otis Loop section of the Ocmulgee Heritage Trail to the Ocmulgee National Monument Park at Walnut Creek between Interstate-16 and the Ocmulgee River, which would serve to improve visitor access, recreation opportunities, and provide continuity in the trail system at the Ocmulgee National Monument. A small side loop near Walnut Creek and a construction access loop southeast of the railroad trestle will also be a part of the proposed expansion. The construction loop will be used to facilitate access over the drainage ditch located on the northern end of the project. A location map has been enclosed for your reference. This section of the trail will be built using Transportation Enhancement (TE) and local funds.

The trail will be 10 feet wide concrete or asphalt and will meander generally between 30 feet and 100 feet from the Ocmulgee River bank, not penetrating the 25-foot Stream Buffer. The proposed paved trail will end at the existing dirt trail in Ocmulgee National Park. There will be footbridges or culverts along the way to cross over natural drainage ways. A canopy is also proposed where the trail will cross under the Norfolk Southern Railroad trestle. Due to the sensitive nature of the Ocmulgee National Monument, construction will primarily be closely tied to existing grades.

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

Please advise us of any known project area conditions of special concern. With your assistance, we can give these issues due consideration and integrate them into the development of the project alignment and design.

Your assistance is appreciated. If you have any questions or need additional information, please contact Melanie Nable at (404) 699-4436.

Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File

Letter to NRCS

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

442 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1586
FACSIMILE 706-722-8378
mail@cranstonengineering.com

THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Mr. James Tillman
State Conservationist
USDA - Natural Resources Conservation Service
Robert G. Stephens Federal building
355 East Hancock Avenue
Athens, Georgia 30601-2769

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Mr. Tillman:

On behalf of the Georgia Department of Transportation, Ocmulgee Heritage Trail, LLC, and Macon-Bibb County, Cranston Engineering Group is in the beginning stages of project development for the above noted project. We are requesting your determination regarding farmland impacts as defined in the National Farmland Protection Policy Act, 7 CFR Part 658. Please advise if we need to submit Form AD 1006 (Farmland Conversion Impact Rating). The proposal consists of an expansion from the proposed Otis Loop section of the Ocmulgee Heritage Trail to the Ocmulgee National Monument Park at Walnut Creek between Interstate-16 and the Ocmulgee River, which would serve to improve visitor access, recreation opportunities, and provide continuity in the trail system at the Ocmulgee National Monument. A small side loop near Walnut Creek and a construction access loop southeast of the railroad trestle will also be part of the proposed expansion. The construction loop will be used to facilitate access over the drainage ditch located on the northern end of the project. A location map has been enclosed for your reference. This section of the trail will be built using Transportation Enhancement (TE) and local funds.

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Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File

Letter to FEMA

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2546, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1566
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mail@cranstonengineering.com

THOMAS H. ROBERTSON, PE, AICP, RLS
JAMES B. CRANFORD, JR., PE
DENNIS J. WELCH, PE

J. CRAIG CRANSTON, PE, RLS
(RETIRED)

July 31, 2009

Mr. A. Todd Davison
Director
Flood Insurance & Mitigation Division
Federal Emergency Management Agency
3003 Chamblee-Tucker Road
Atlanta, Georgia 30341

Re: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 - Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Mr. Davison:

On behalf of the Georgia Department of Transportation, Ocmulgee Heritage Trail, LLC, and Macon-Bibb County, Cranston Engineering Group is in the beginning stages of project development for the above noted project. We are requesting your determination regarding farmland impacts as defined in the National Farmland Protection Policy Act, 7 CFR Part 658. Please advise if we need to submit Form AD 1006 (Farmland Conversion Impact Rating). The proposal consists of an expansion from the proposed Otis Loop section of the Ocmulgee Heritage Trail to the Ocmulgee National Monument Park at Walnut Creek between Interstate-16 and the Ocmulgee River, which would serve to improve visitor access, recreation opportunities, and provide continuity in the trail system at the Ocmulgee National Monument. A small side loop near Walnut Creek and a construction access loop southeast of the railroad trestle will also be part of the proposed expansion. The construction loop will be used to facilitate access over the drainage ditch located on the northern end of the project. A location map has been enclosed for your reference. This section of the trail will be built using Transportation Enhancement (TE) and local funds.

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It is anticipated the proposed project will encroach upon regulatory floodplains or floodways. A floodplain map of the project has been enclosed for your convenience.

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental assessment.

Please advise us of any known project area conditions of special concern. With your assistance, we can give these issues due consideration and integrate them into the development of the project alignment and design. Your assistance is appreciated. If you have any questions or need additional information, please contact Melanie Nable at (404) 699-4436.

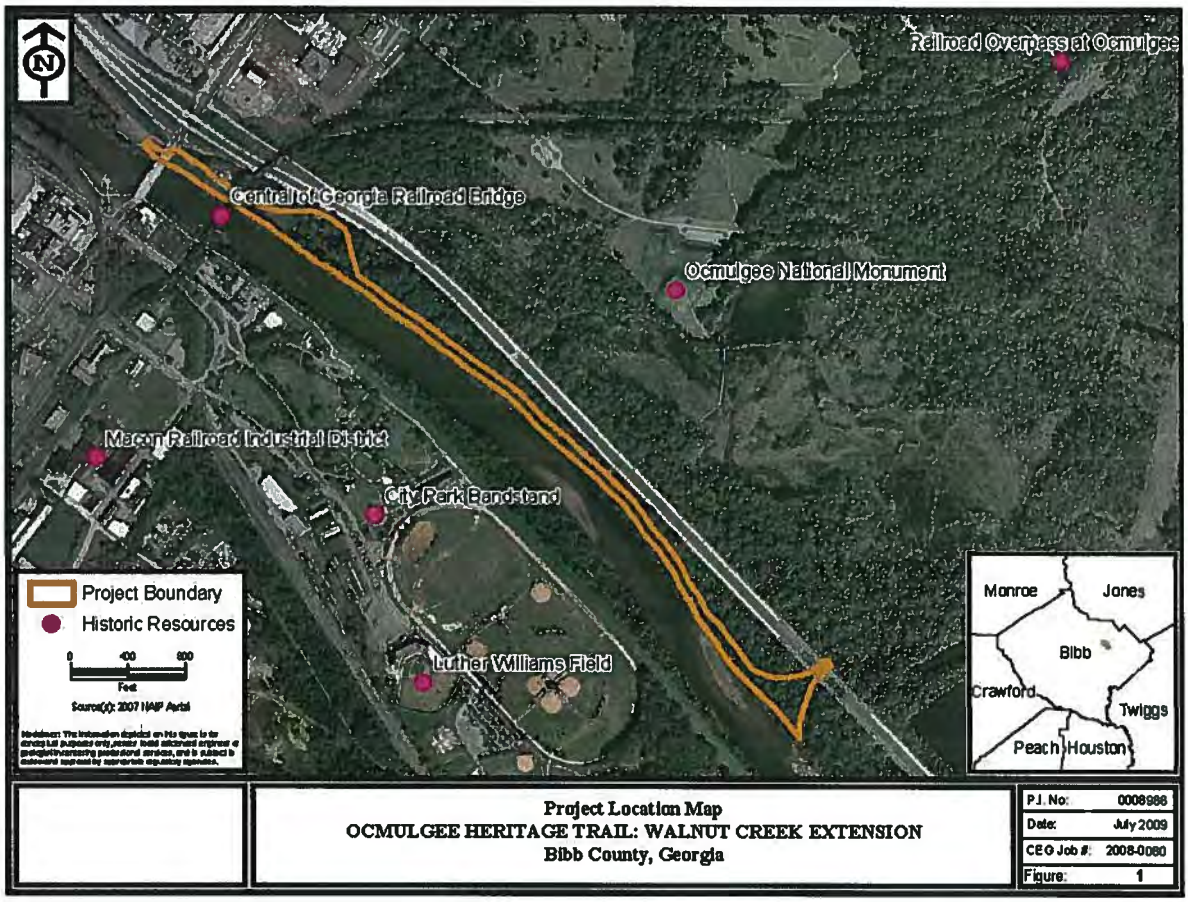
Sincerely,

CRANSTON ENGINEERING GROUP, P.C.

Tori Wheeler

TFW /tfw/mm
Enclosure

cc: Melanie Nable, GDOT NEPA
Tom Queen, GDOT PM
Project File



Project Location Map
OCMULGEE HERITAGE TRAIL: WALNUT CREEK EXTENSION
Bibb County, Georgia

P.I. No:	0008986
Date:	July 2009
CEO Job #:	2008-0060
Figure:	1

Responses

From: Nable, Melanie [mailto:mnable@dot.ga.gov]
Sent: Monday, August 31, 2009 5:04 PM
To: Tori Wheeler
Cc: pete_pattavina@fws.gov; Coppola, Christopher
Subject: Bibb Co. PI 0008986 - OHT

Tori,

Pete Pattavina from USFWS called in response to the early coordination letter that was sent for the subject project. He stated that there are two federally listed plant species that are endangered in Bibb County, the Relict trillium and the Fringed Campion. If habitat is available surveys would have to take place the last week in April. The Ocmulgee skullcap is also in that area, but it is a state listed species.

I know the ecology report was submitted to us recently from ESI; however, I don't have the contact name in from of me at the moment, so please pass this information on to them and consider it part of the official record. I'll make sure to pass this information to our ecologist once assigned.

If you have any questions, please let me know.

Thank you,

M

You can access the OEL Procedures manual through the link below:
http://wwwb.dot.ga.gov/dot/preconstruction/r-o-a-d-s/oel/html/index.html

Melanie Nable
NEPA
GDOT Office of Environment/Location
3993 Aviation Circle
Atlanta, GA 30336
404.699.4436 – 404.699.4440 (f)

ROBERT A.B. REICHERT
MAYOR

OFFICE OF THE MAYOR
City of Macon

700 POPLAR STREET
P.O. BOX 247
MACON, GEORGIA 31202-0247
(478) 751-7170
FAX (478) 751-2749

August 6, 2009

Ms. Tori Wheeler
Cranston Engineering Group. P. C.
452 Ellis Street
Augusta, Georgia 30901

Re: Early Coordination Request for Project
Number CSTEE-0008-00(986)
Bibb County, P. I. No. 0008986 – Ocmulgee
Heritage Trail: Walnut Creek Extension

Dear Ms. Wheeler:

I was pleased to receive your letter requesting that I advise you "of any known project area conditions of special concern" regarding the Ocmulgee Heritage Trail: Walnut Creek Extension. We do not have any concerns at this time.

Thank you for your letter. We are looking forward to the completion of this project.

Sincerely,

Robert A. B. Reichert
Mayor

RABR/ns

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
355 East Hancock Avenue
Athens, GA 30601

August 28, 2009

Ms. Tori Wheeler
Cranston Engineering Group, P.C.
P. O. Box 2546
Augusta, Georgia 30903

Re: Early Coordination Request: for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 – Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms. Wheeler:

This letter is in reference to your request for any known natural resource conditions of special concern for the project listed above. The following outlines our concerns with the proposed project with regards to farmland protection, and Natural Resources Conservation Service (NRCS) watershed dams and project easements.

Farmland Protection

The Farmland Protection Policy Act (FPPA) is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. Projects are subject to 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. It should be noted that the FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners.

NRCS uses a Land Evaluation and Site Assessment (LESA) system to establish a farmland conversion impact rating score on proposed sites of federally funded and assisted projects. This score is used as an indicator for the project sponsor to consider alternative sites if the potential adverse impacts on the farmland exceed the recommended allowable level. It is our understanding that the proposed project involves Federal funds or assistance, and thus would be subject to this assessment. However, this project is completely contained within a U.S. Bureau of the Census Urban Area. You need take no further action for FPPA purposes. The site is completely in an area that is subject to frequent flooding with brief durations at certain times a year. See attached map.

NRCS Watershed Dams

More than 50 years ago, the U.S. Department of Agriculture was authorized by Congress to help local communities with flood control and watershed protection through the Watershed Program (PL-534 Flood Control Act of 1944 and PL-566 Watershed Protection and Flood Prevention Act). As a result, local communities, with NRCS assistance, have constructed over 11,000 dams in 47 states since 1948. These dams were originally constructed for protection of farmlands from flooding impacts. In 2000, PL-566 was amended to provide NRCS authorization to assist communities with rehabilitation of their aging dams. The legislation authorizes NRCS to work with local communities and watershed project sponsors to address public health and safety concerns and potential environmental impacts of aging dams.

We have reviewed our records and have determined that there are no NRCS watershed dams downstream or in the vicinity of this project.

NRCS Easements

NRCS easements relate to our Wetland Reserve Program and the Farm and Ranch Land Protection Program. We have reviewed our records and have determined that there are no such easements within the vicinity of the proposed project that would be impacted.

NRCS appreciates this opportunity to comment. If you have questions or need any additional information, please contact Dan Wallace of my staff at (706) 546-2244.

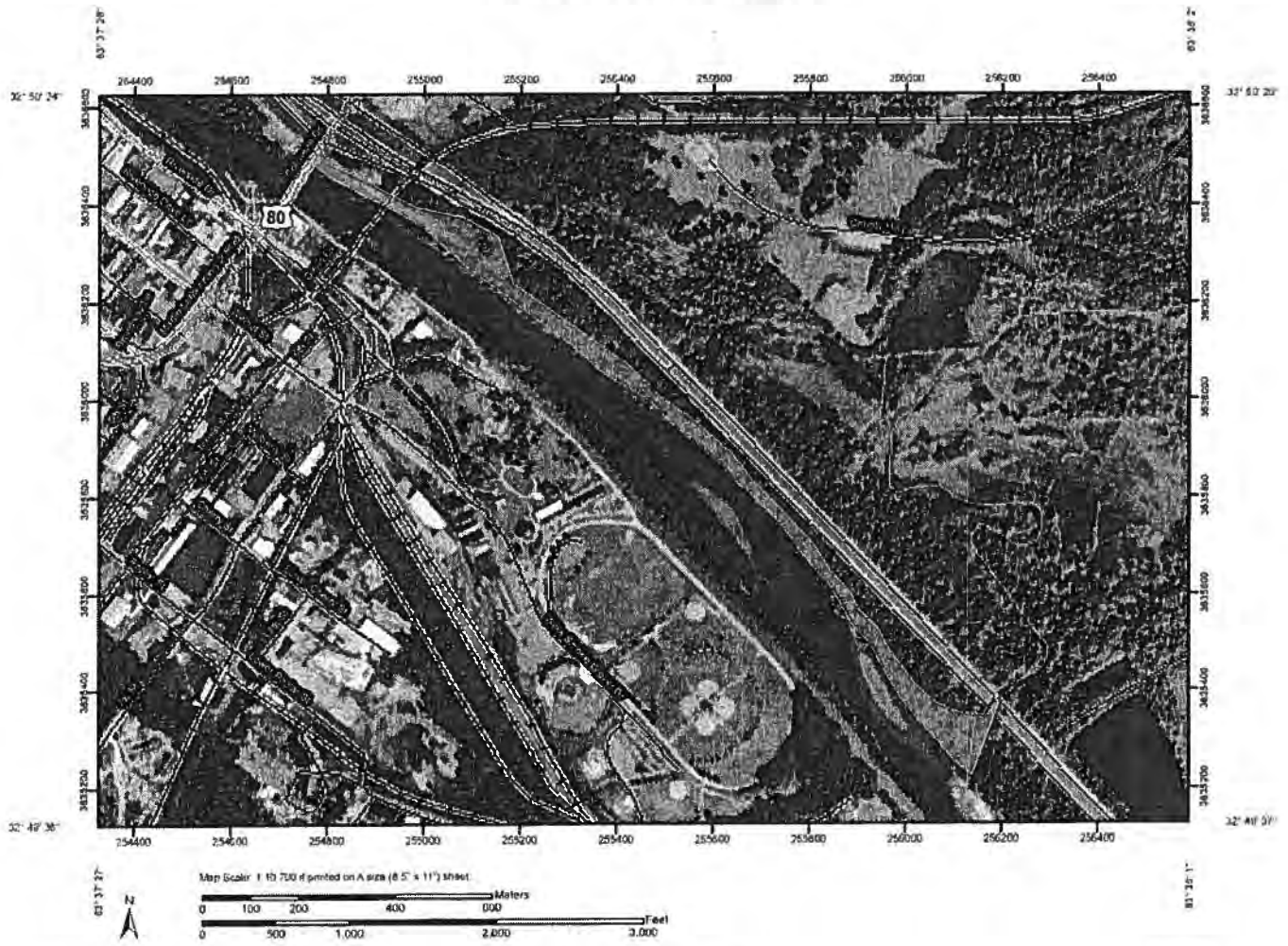
Sincerely,

JAMES E. TILLMAN, SR.
State Conservationist

Enclosures

cc: Natasha Brown, Assistant State Conservationist (FO), NRCS, Americus, Georgia
Ray Jones, District Conservationist, NRCS, Fort Valley, Georgia

Farmland Classification—Bibb County, Georgia



USDA Natural Resources Conservation Service

Web Soil Survey
National Cooperative Soil Survey

8/25/2009
Page 1 of 3

MAP LEGEND

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

Soils
- Soil Map Units

Soil Ratings
- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Political Features
- Cities

Federal Land
- National Park Service

Water Features
- Oceans
- Streams and Canals

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

MAP INFORMATION

Map Scale: 1:10,700 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 17N NAD83

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

Soil Survey Area: Bibb County, Georgia
Survey Area Data: Version 6, Dec 22, 2008

Date(s) aerial images were photographed: 9/15/2007; 10/20/2007

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.

Farmland Classification

Farmland Classification— Summary by Map Unit — Bibb County, Georgia				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Co	Congaree silt loam	All areas are prime farmland	18.2	100.0%
Totals for Area of Interest			18.2	100.0%

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Report—Water Features

Water Features– Bibb County, Georgia										
Map unit symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Co—Congaree silt loam										
Congaree	B	—	January	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	February	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	March	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	April	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	November	2.5-4.0	>6.0	—	—	None	Brief	Frequent
	B	—	December	2.5-4.0	>6.0	—	—	None	Brief	Frequent

Data Source Information

Soil Survey Area: Bibb County, Georgia
Survey Area Data: Version 5, Dec 22, 2006

Middle Georgia Regional Commission

175 Emery Highway, Suite C • Macon, Georgia 31217 • (478) 751-6160 • FAX (478) 751-6517 • www.middlegeorgiarc.org

Tom McMichael, Chairman — Ralph Hix, Executive Director

RECEIVED

AUG 05 2009

Cranston Engineering Group, P.C.

August 4, 2009

Ms. Tori Wheeler
Cranston Engineering Group, P.C.
452 Ellis Street
Augusta, GA 30901

RE: Early Coordination Request for Project Number CSTEE-0008-00(986), Bibb County, P.I. No. 0008986 – Ocmulgee Heritage Trail: Walnut Creek Extension

Dear Ms Wheeler:

On August 4, 2009, the Middle Georgia Regional Commission received the Early Coordination Request letter dated July 31, 2009 regarding DOT P.I. No. 0008986 in Bibb County. In keeping with the allotted thirty (30) day review timeframe, the Middle Georgia Regional Commission offers the following comments.

Our office completed a review and examination of the documents provided, proposed project site, and the Area of Potential Effect (APE). The focus of our evaluation was based on cultural resources and any potential impact the proposed project would have on historic properties listed on or eligible for listing on the National Register of Historic Places (NRHP).

According to our files, the historic resources identified on the Project Location Map are the only resources within the project APE that are either listed in or eligible for listing in the NRHP.

The opportunity to comment on this project is greatly appreciated. Please contact me if I can be of further assistance at (478)751-6160 or kharpst@mg-rc.org.

Sincerely,

Kristina A. Harpst

Kristina A. Harpst, AICP
Historic Preservation Planner

spg

Cranston Engineering Group, P.C.
ENGINEERS - PLANNERS - SURVEYORS

452 ELLIS STREET, AUGUSTA, GEORGIA 30901
POST OFFICE BOX 2646, AUGUSTA, GEORGIA 30903
TELEPHONE 706-722-1566
FACSIMILE 706-722-9379
mail@cranstonengineering.com

RECORD OF DISCUSSION

DATE 8/24/09 **AM** 8:30 **PM** _____

WITH Brian McCallum **OF** USGS

	IN PERSON	PHONE NUMBER	770-903-9127
	LOCAL PHONE		
X	LONG DISTANCE	CALL DURATION	15 MIN.

JOB NUMBER 2008-0080 **TITLE** OHT: Walnut Creek Extension

DESCRIPTION

Brian called in response to the early notification letters sent out for this project on July 31, 2009. He had been forwarded the letter that was sent to Dara Ritter in the Virginia office. Their only concern with the project area is the stream bank gauge for the Ocmulgee River that is on the Otis Redding Bridge. I assured Mr. McCallum that there should be no impact to the bridge therefore no impact should be expected to the stream gauge. He asked to be kept abreast of any design changes that may arise so that USGS can stay informed. His contact info is below:

Brian McCallum
USGS
770-903-9127
bemccall@usgs.gov

COPIES TO:
Brian McCallum, USGS
Melanie Nable, GDOT NEPA
Meghan Morse, Mangi Environmental
Project File

Cranston Engineering Group, P.C.

Tori Wheeler, Project Engineer

By: Tori Wheeler

Chris Clark, Commissioner
Dan Forster, Director

Georgia Department of Natural Resources
Wildlife Resources Division
Nongame Conservation Section
2065 U.S. Highway 278, S.E., Social Circle, Georgia 30025-4743
(770) 918 6411

April 29, 2009

Stuart Bryan, Senior Scientist I
Environmental Services, Inc.
204 West St. Julian Street, Third Floor
Savannah, GA 31401

Subject: **Known occurrences of natural communities, plants and animals of highest priority conservation status on or near OHT Walnut Creek, ESI Project # ES08069.00, Bibb County, Georgia**

Dear Mr. Bryan:

This is in response to your request of March 23, 2009. According to our records, within a three-mile radius of the project site there are the following Natural Heritage Database occurrences:

GA *Corynorhinus rafinesquii* (Rafinesque's Big-eared Bat) approx. 1.0 mi. NE of site
Desmognathus auriculatus (Southern Dusky Salamander) approx. 2.0 mi. SE of site
Micropterus cataractae (Shoal Bass) on site in the Ocmulgee River
GA *Sarracenia flava* (Yellow Flytrap) approx. 2.5 mi. E of site
GA *Sarracenia rubra* (Sweet Pitcherplant) approx. 2.5 mi. E of site
Ursus americanus floridanus (Florida Black Bear) approx. 2.0 mi. S of site
Greenspace [Bibb County] approx. 1.0 mi. N of site
Greenspace [Bibb County] approx. 2.0 mi. W of site
Ocmulgee National Monument [National Park Service] less than 0.1 mi. NE of site
Ocmulgee River [High Priority Stream] on site

* Entries above proceeded by "US" indicates species with federal status in Georgia (Protected or Candidate). Species that are federally protected in Georgia are also state protected; "GA" indicates Georgia protected species.

Recommendations:

We have a record of *Micropterus cataractae* (Shoal Bass) on site in the Ocmulgee River. In the future, please submit project descriptions with your request for threatened and endangered species information. This will allow us to make more specific recommendations for the projects proposed at each site and allow us to adequately assess the threats to species of concern. Thanks for your cooperation.

In order to protect aquatic habitats and water quality, we recommend that all machinery be kept out of the river during construction any construction. We urge you to use stringent erosion control practices during construction activities. Further, we strongly advocate leaving vegetation intact within 100 feet of creeks, which will reduce inputs of sediments, assist with maintaining riverbank integrity, and provide shade and habitat for aquatic species. We realize that some trees may have to be removed, but recommend that shrubs and ground vegetation be left in place.

IR 12444

Please keep in mind that this project occurs on the Ocmulgee River, a high priority stream. As part of an effort to develop a comprehensive wildlife conservation strategy for the state of Georgia, the Wildlife Resources division has developed and mapped a list of streams that are important to the protection or restoration of rare aquatic species and aquatic communities. High priority waters and their surrounding watersheds are a high priority for a broad array of conservation activities, but do not receive any additional legal protections. We now have GIS ESRI shapefiles of GA high priority waters available on our website (http://www.georgiawildlife.com/content/displaycontent.asp?txtDocument=89&txtPage=13). Please contact the Georgia Natural Heritage Program if you would like additional information on high priority waters.

Data Available on the Nongame Conservation Section Website

By visiting the Nongame Conservation Section Website you can view the highest priority species and natural community information by Quarter Quad, County and HUC8 Watershed. To access this information, please visit our GA Rare Species and Natural Community Information page at: http://georgiawildlife.dnr.state.ga.us/content/displaycontent.asp?txtDocument=89

An ESRI shape file of our highest priority species and natural community data by quarter quad and county is also available. It can be downloaded from: http://georgiawildlife.dnr.state.ga.us/assets/documents/gnhp/gnhpds.zip

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (http://www.georgiawildlife.com) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,

Katrina Morris
Environmental Review Coordinator

JR 12444

Stuart Bryan

From: Jim Ozier [Jim.Ozier@dnr.state.ga.us]
Sent: Tuesday, March 24, 2009 4:00 PM
To: Stuart Bryan
Subject: Re: Project site review

Stuart, bald eagles probably forage within 3 miles of the project area along the river and at the brick ponds to the south, but there are no known nor suspected nests within 3 miles, nor any occupied red-cockaded woodpecker habitat within 3 miles.

<<<<<<><><><><>>>>>>
Jim Ozier, Program Manager
Forsyth Office, Rum Creek WMA
Nongame Conservation Section
Wildlife Resources Division
Georgia Department of Natural Resources
116 Rum Creek Drive
Forsyth, Georgia 31029-6518
478-994-1438, 478-993-3050 fax

Wild about wildlife? Sign up for "Georgia Wild," DNR's free e-newsletter at:
http://www.georgiawildlife.com/enewsletters.aspx

>>> "Stuart Bryan" <sbryan@ESINC.CC> 3/23/2009 11:00:17 am >>>
Mr, Ozier,

We are working on a project directly adjacent to the Ocmulgee River in Macon. The project area terminates at the convergence of the Ocmulgee and Walnut Creek (maps attached location, and topo). Through this notification we respectfully request that you review your files and provide ESI with any information regarding the known presence of bald eagles, and RCW on or within 3 miles of the proposed project area.
Thank you for your time and let me know if you need additional information.

Approximate coordinates for project start and end:

Start

32o 50'21.52"N

83o 37'13.25"W

End

32o 49'42.25"N

83o 36'19.17"W

Thanks

Stuart Bryan

Senior Scientist

Environmental Services, Inc.

1

Brandon Smith

From: Jim Ozier [Jim.Ozier@dnr.state.ga.us]
Sent: Friday, August 27, 2010 9:33 AM
To: Brandon Smith
Subject: Re: Bald eagle

Brandon, the nearest known bald eagle nest is 6.5 miles SSE of your point.

Jim

>>> "Brandon Smith" <bsmith@ESINC.CC> 8/26/2010 10:50 am >>>
I have a project in Bibb County, across the river from downtown that is DOT funded. I know already that the nearest known bald eagle nest is beyond 3 miles, but DOT wants the actual distance to the nearest nest regardless of distance. Could you provide me with the nearest known nest from the below location.

latitude 32.834163 and longitude -83.611277

Thanks.

Brandon Smith | Senior Project Manager

413 East Liberty Street | Savannah, Georgia 31401

912-236-4711 Phone | 912-236-3668 Fax | 912-596-3743 Cell

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