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Carolina Crossroads

Preliminary Bat Habitat Assessment

Prepared for:

South Carolina Department of Transportation Columbia, South Carolina

Prepared by: HDR

August 2023

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Acronyms and Abbreviations

DBH	diameter at breast height
IPaC	Information, Planning, and Consultation
NLCD	National Land Cover Database
Project	Carolina Crossroads Project
SCDNR	South Carolina Department of Natural Resources
SCDOT	South Carolina Department of Transportation
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

Appendix A

Project Area Maps



Palmetto Citizens Federal Credit Union

Unnamed Pipe - 1027

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Great Southern Homes

Universal Outreach Church of God in Christ

United States Postal Service



EC-0202 0 EP-0301

Steve Padgett's Honda Of Lake Murray

Starbucks



m Hudson Toyota



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1.5

Southland Log Homes

Unnamed Pipe - 1023 °

Stars and Strikes Family Entertainment Center

EC-0601



Irmo Community Park

Unnamed Pipe - 1026. •

Zaxby's Chicken Fingers & Buffalo Wings

Anchor Lanes

Southland Log Homes

Unnamed Ripe - 1023

EC-0601 Stars and Strikes Family Entertainment Center

9359: Lake Murry Blvd over I-26

Post of EC-0.601 Home2 Suites by Hilton Columbia Harbison

Unnamed Pipe - 1024 °





Hilton Garden Inn Columbia/Harbison

Harbison Gardens

Publix Super-Market at Kennerly Crossing

The Piercing Parlor

Goodwill

Cracker Barrel Old Country Store

Unnamed Pipe - 1025

Doctors Care - Parkridge

Texas Roadhouse EP-0801



Frankie's Fun Park





Unnamed Ripe - 1029

Carolina Ale House

2nd & Charles

Garden Italian

Google Eart

Frankie's Fun Park

Lowe's Home Improvement Harbison Ped Culvert 4

Harbison Ped Culvert 3

Harbison Ped Culvert 2

7506: Harbison over I-26

Harbison Ped Culvert 1 Dave & Buster's Columbia

The Home Depot



Unnamed Pipe - 1020

Unnamed Pipe - 1022

Harbison Community Center

Unnamed Pipe - 1021



Crestmon



Unnamed Pipe - 1022

Sam's Club

Unnamed Pipe - 1021

Mir.

Unnamed Pipe - 1020 °

Pawmetto Lifeline

Sylvan Learning of Columbia-Irmo

A STATE OF A

Google Earth

AFH Automotive dba S&S Automotive Johnson Controls Columbia Branch Office

EC-1302 °

Costco Wholesale

Sportsman's Warehouse

eråge Warehouse

8893: Piney Grove over I-26

EP-1401 °

Country Inn & Suites by Radisson, Columbia...

in the second

CarMax

Piney Grove Townhomes

op

Cre

Carolina Endodontics

Turner Properties

Palmetto State Armory - Columbia 0



A SHE WAY

Direct Roadside Assistance

Palmetto Decorators

X

Scouting For Flags

100

Palmetto State Armory - Columbia

Columbia Powersports Center

Floor & Decor

-

Dick Smith Nissan of St. Andrews









Study Area 6

EC-1905

Jamil Shrine Temple

Harbor Freight Tools

Crossroads Church

Woodland Hills Community Church

Ashland United Methodist Church

Google Earth,



Cycle Gear

EP-2:102

QuikTrip

7586: St. Andrews over I-26 EP-2121 3374: I-26 Stoops Creek Culvert

Firefly Toys & Games

Red Roof Inn Columbia West, SC EP-2201

> **o** EP-2202

> > Peachtree Place

Sonic Drive-In

Sims Music

Bent Tree Apartments

Arthritis Knee Pain Centers - Columbia

Gallman Personnel Services Inc The Grove at St Andrews

EP-4001

4411: Browning over I-26

94407: I-26 over I-20



Red Roof Inn Columbia West, SC EP-2201

Peachtree Place

0

EP-2202

4367 20 Stoops Creek Culvert (EC-3902)

Synergy Business Park

ineny

4611: Rockland Rd Bridge EP-3801

Hamrick's of Columbia

amad Pipe - 1017

Persis Biryani Indian Grill

Arthritis Knee Pain Centers - Columbia

Gallman Personnel Services Inc The Grove at St Andrews



4407: I-26 over I-20



Bent Tree Apartments

ELSERVICES Inc The Grove at St Andrews

EP-4001

4411: Browning over I-26



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Cunningham Appliances

Pon Di River Caribbean Bar and Bistro

4652: Broad River Road over I-20

ASTE ALE



Affordable Dentures & Implants

Taco Bell

Pep Boys

Cinemas Dutch Square 14



a 66 181 1 40 40

10 MU

0 0 0

Columbia High School

St Andrews

Cunningham Appliances

Pon Di River Caribbean Bar and Bistro

4652: Broad River Road over I-20

C-4201

Affordable Dentures & Implants

Taco Bell

Google Earth

Divine Purpose Consulting & Notary

The Park

The Waterford Apartments Apartment...

Broad River Bridge 4638: I-20 over Broad River

Riverside Golf Center

Carnaby Square Condominiums

Columbia Rowing Club

Broad River

Clark Home Remodeling

Contro





Christian Life Church Our Lady of the Hills Catholic Church

Real Mexico

4366: I-20 over CSX ?

Google Earth



Synergy Business Park

4611: Rockland Rd Bridge EP-3801

Cracker Barrel Old Country Store 7272: Bush River over I-20



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Hamrick's of Columbia

Unnamed Pipe = 1017

N W White & Co

Gallman Personnel Services Inc The Grove at St Andrews

EP-4001

EP-2202

94407: I-26 over I-20



Baymont by Wyndham Columbia Northwest

EP-2521

AutoZone Auto Parts

Persis Biryani Indian Grill

900

eek



(Aug

Saluda River

4366: I-20 over CSX %

Saluda River

4604: I-20 over Saluda River

Unnamed Pipe - 1016 OUNDER OUNDER

EC-3501 Unnamed Ripe - 1013

Unnamed Pipe - 1011 Unnamed Pipe - 1012

EP-3801

7272: Bush River over I-20

EC-3701

Unnamed Pipe - 1017

Saluda River



Google Earth

Unnamed Ripe - 1015

Carrier P

EC-3501

2

O Unnamed Pipe - 1014 Unnamed Pipe - 1013

Unnamed Pipe - 1011 Unnamed Pipe - 1012



21

EC-3201 Unnamed Ripe - 1010



Unnamed Pipe - 1011 "Unnamed Pipe - 1012



4367: I-20 Stoops Creek Culvert (EC-3902)





7937: Bush River over I-26

• EC-2601 Unnamed Pipe - 1009







EP-2521

Unnamed Pipe - 1009

°EC-2502

8030: I-26WB over I-126 °

2823: I-26 over CSX/

7934: I-126 ramp over Saluda and CSX o

3022: I-26 overSaluda River

Google Earth

3464: 20 over Broad River

100

2824: I-26 ramp over I-126

°EC-2601

EP-480

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Ripe - 1015

Ripe - 1013 Unnamed Pipe - 1012

3022: I-26 over Saluda River

Unnamed Pipe - 1008 Unnamed Pipe - 1007 7936: I-126 Ramp over Arrowwood Digmamed Pipe - 1004 Unnamed Ripe - 1006 Unnamed Pipe - 1005

8578: McSwain Drive over Senn Branch

EC-2901

2797: 378 over 1-26

Unnamed Pipe - 1003

EC-5101 EP-5102 Unnamed Pipe - 1001 Unnamed Pipe - 1002



Study Area 10

Unnamed Pipe - 1009

EP-4801

8030: I-26WB over I-126 2824: I-26 ramp over I-126

•EC-2601

2823: I-26 over CSX

I-126 ramp over Saluda and CSX

3022: I-26 over Saluda River

EC-4901 Unnamed Pipe - 1008 Unnamed Pipe - 1007

7936: I-126 Ramp over Arrowwood Lunnamed Pipe - 1004 EC-4903 Unnamed Ripe - 1006 Unnamed Pipe - 1005

3464: I-20 over Broad River

EC-5101

Unnamed Pipe - 1003





Unnamed Ripe - 1008 Unnamed Ripe - 1007

Unnamed Pipe - 1006

Unnamed Pipe - 1005

Google Earth nage © 201







Unnamed Pipe - 1004

7936: I-126 Ramp over Arrowwood Dr.

97935: Colonial Life over I-126



Unnamed Ripe - 1003





Unnamed Ripe - 1001 Unnamed Pipe - 1002

(2)

6. A





Appendix B

U.S. Fish and Wildlife Information for Planning and Consultation Report and South Carolina Department of Natural Resources Natural Heritage Report

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Lexington and Richland counties, South Carolina



Local office

South Carolina Ecological Services

√ (843) 727-4707
→ (843) 727-4218

176 Croghan Spur Road, Suite 200

Charleston, SC 29407-7558

NOTFORCONSULTATION

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

- 1. Draw the project location and click CONTINUE.
- 2. Click DEFINE PROJECT.
- 3. Log in (if directed to do so).
- 4. Provide a name and description for your project.
- 5. Click REQUEST SPECIES LIST.

Listed species1 and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries2).

Species and critical habitats under the sole responsibility of NOAA Fisheries are not shown on this list. Please contact NOAA Fisheries for speCies under their iurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat hasbeen designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
Birds	
NAME	STATUS
Red-cockaded Woodpecker Picoiaes Dorealis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp pecies/761 4	Endangered
Insects	
NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat hasbeen designated for this species. https://ecos.fws.gov/ec/q_gpecies/9743	Candidate
Flowering Plants	
NAME	STATUS
Canby's Dropwort Oxyoolis canDyi Wherever found No critical habitat hasbeen designated for this species. https://ecos.fws.gov/ecp pecies/7738	Endangered
Rough-leaved Loosestrife Lysimacnia asoerulaefolia Wherever found No critical habitat hasbeen designated for this species. https://ecos.fws.gov/ecp pecies/2747	Endangered

Smooth Coneflower Ecninacea laevigata Wherever found No critical habitat hasbeen designated for this species. https://ecos.fws.gov/ecp pecies/3473

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Threatened

Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migatrory Bird Treaty Act.

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

Additional information can be found using the following links:

- Eagle Managment https://www.fws.gov/prgram/eagle-management
- Measures for avoiding and minimizing impacts to birds_ https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-takemigtrory-birds
- Nationwide conservation measures for birds_ https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservationmeasures.pdf

There are bald and/or golden eagles in your project area.

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

Bald Eagle Haliaeetus leucocepnalus

Breeds Sep 1 to Jul 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (•)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

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

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

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (•)

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

Survey Effort (I)

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

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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



What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and Citizen sCience datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL)Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory BirdResource Listiscomprised of USFWS Birds of Conservation ConCern(BCC) and other species that may warrant special attention in your project location.

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

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

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

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

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

- 1. The Migtrory Birds Treaty Act of 1918.
- 2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/prgram/migatrory-birds/species
- Measures for avoiding and minimizing impacts to birds_ https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-takemigtrory-birds
- Nationwide conservation measures for birds_ https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservationmeasures.pdf

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

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

NAME	BREEDING SEASON
American Kestrel Falco sparverius oaulus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
Bald Eagle Haliaeetus leucocepnalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Black-billed Cuckoo Coccyzus er nroptnalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/9399	Breeds May 1 5 to Oct 10
Brown-headed Nuthatch Sitta Dusilia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Cerulean Warbler Dendroica cerulea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/2974	Breeds Apr 26 to Jul 20
Chimney Swift Chaetura oelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Eastern Whip-poor-will Antrostomus vociferus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Kentucky Warbler Oporornisformosus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20

Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/9679	Breeds elsewhere
Painted Bunting Passerina ciris This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
Prairie Warbler Denaroica aiscolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA andAlaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker MelanerDes e tnrocepnalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA andAlaska.	Breeds May 10 to Sep 10
Rusty Blackbird Euphagus carolinus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Swallow-tailed Kite Elanoides forficatus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp pecies/8938	Breeds Mar 10 torun 30
Wood Thrush Hylocichla mustelina This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability of Presence Summary

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Probability of Presence (•)

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

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

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (•)

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Survey Effort (I)

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

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

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

Survey Timeframe

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

SPECIES	LAN	FEB	MAR	APR	MAY	UN	jUL	AUG	SEP	ОСТ	NOV	DEC
American Kestrel BCC - BCR	****	₩ ┿┿┼	 ++ + #	┼┿┼┿	<u></u> + + + + + + + + + + + + +	# ++#	ŧ ┼ŧŧ	# ++ #	┼╪┿┿	***	***	####
Bald Eagle Non-BCC Vulnerable	₩	ŧ ŧŧ∎	 	# ###	<u></u> + + + + + + + + + + + + +	₩ ₽+₽	 ŧ∔ŧ∔	₩ +₩₩	∎∎ ≢ ≢	₽₽₽₽	+++	┿╪ ∎╡
Black-billed Cuckoo BCC Rangewide (CON)	++++	++++	++++	+++ #	<mark>┿</mark> ╂┿╂	++++	++++	++++	┼┼┼║	<mark>┼</mark> ┼┼	++++	++
Brown-headed Nuthatch BCC - BCR												
Cerulean Warbler BCC Rangewide (CON)	++++	++++	++++	┼┿┼ <mark>┿</mark>	++++	++++	++++	++++	++++	++++	++++	 -f
Chimney Swift BCC Rangewide (CON)	++++	++++	+ +					UNI I	IMB	₩₩#+	++++	+++
Eastern Whip- poor-will BCC Rangewide (CON)	++++	++++	++++	++++	<u>+++</u> +	₩£₽₩	, TÎH]]]]	++++	++++	++++	++++
Kentucky Warbler BCC Rangewide (CON)	++++	++++	1111)++ - *+	****	** ++	} <u></u>	++++	++++	++++	++++	+++
Lesser Yellowlegs BCC Rangewide (CON)	, <u>+</u> + + +	*+++	++++	₩++	++++	+++		↓ ↓	↓ ↓↓	+++		Ţ
Painted Bunting BCC - BCR	┼┯┼┼	++++	 ‡ ‡+‡‡	┼╪ <mark>╝</mark>	 				*###	****	++++	
Prairie Warbler BCC Rangewide (CON)	++++	++++	 	++#+	╈╪╂┼	• +++	++++	**	****	**	++++	++++
Prothonotary Warbler BCC Rangewide (CON)	++++	++++	+++					∔∔mmini	∔⊞₩∔	++++	++++	++
SPECIES	LAN	FEB	MAR	APR	MAY	UN	jUL	AUG	SEP	ОСТ	NOV	DEC
Red-headed Woodpecker BCC Rangewide (CON)	****	 + 			∳∳ ≢≢	* † 1 †	 	1+1+				***


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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

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

The Migratory BirdResource Listiscomprised of USFWS Birds of Conservation ConCern(BCC) and other species that may warrant special attention in your project location.

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your listisgenerated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of

presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. ArmCyorpspof Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI maps to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissancelevel information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



South Carolina Department of Natural Resources

Robert H. Boyles, Jr. Director

Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

PO Box 167 Columbia, SC 29202 (803) 734-1396 speciesreview@dnr.sc.gov

Requested on Friday, June 30, 2023 by Johanna Velasquez.

Re: Request for Threatened and Endangered Species Consultation

Johanna Velasquez, HDR Inc. - Carolina Crossroads - Road - Richland County-Lexington County, South Carolina

The South Carolina Department of Natural Resources (SCDNR) has received your request for threatened and endangered species consultation of the above named project in Richland County-Lexington County, South Carolina. The following map depicts the project area and a 1 mile buffer surrounding:



Live Life Outdoors



South Carolina Department of Natural Resources



Robert H. Boyles, Jr. Director Emily C. Cope Deputy Director for Wildlife and Freshwater Fisheries

This report includes the following items:

- A A report for species which intersect the project area
- B A report for species which intersect the buffer around the project area
- C A list of best management practices relevant to species near to or within the project area
- D A list of best management practices relevant to the project type
- E A list of state & federally listed species within the county of the project area
- F Instructions to submit new species observation records to the SC Natural Heritage Program

Please be advised:

The contents of this report, including all tables, maps, recommendations, and various other text, are produced as a direct result of the information a user provides at the time of submission. The SCDNR assumes that all information submitted by the user represents the project scope as proposed, and recommends that additional reports be requested should the scope deviate from how the project was initially represented to the SCDNR.

The technical comments outlined in this report are submitted to speak to the general impacts of the activities as described through inquiry by parties outside the South Carolina Department of Natural Resources. These technical comments are submitted as guidance to be considered and are not submitted as final agency comments that might be related to any unspecified local, state or federal permit, certification or license applications that may be needed by any applicant or their contractors, consultants or agents presently under review or not yet made available for public review. In accordance with its policy 600.01, Comments on Projects Under Department Review, the South Carolina Department of Natural Resources, reserves the right to comment on any permit, certification or license application that may be published by any regulatory agency which may incorporate, directly or by reference, these technical comments.

Interested parties are to understand that SCDNR may provide a final agency position to regulatory agencies if any local, state or federal permit, certification or license applications may be needed by any applicant or their contractors, consultants or agents. For further information regarding comments and input from SCDNR on your project, please contact our Office of Environmental Programs by emailing environmental@dnr.sc.gov or by visiting www.dnr.sc.gov/environmental. Pursuant to Section 7 of the Endangered Species Act, requests for formal letters of concurrence with regards to federally listed species should be directed to the USFWS.

Should you have any questions or need more information, please do not hesitate to contact our office by email at speciesreview@dnr.sc.gov or by phone at 803-734-1396.

Sincerely,

Joseph Lemeris, Jr. Heritage Trust Program SC Department of Natural Resources

Live Life Outdoors





A. Project Area - Species Report

There are 7 tracked species records found within the project foot print. The following table outlines occurrences found within the project footprint (if any), sorted by listing status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found on site may be listed in this table but are not represented on the map. Please contact speciesreview@dnr.sc.gov should you have further questions related to sensitive species found within the project area.





Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Alosa aestivalis	Blueback Herring	Not Applicable	Not Applicable	G3G4	S5	2021	Zoological
Alosa mediocris	Hickory Shad	Not Applicable	Not Applicable	G4	S4	2021	Zoological
Alosa sapidissima	American Shad	Not Applicable	Not Applicable	G5	S4S5	2022-05-04	Zoological
Astragalus michauxii	Sandhills Milkvetch, Michaux's	Not Applicable	Not Applicable	G3	S2	1971-06-02	Botanical
Ludwigia spathulata	Southern Water-purslane	Not Applicable	Not Applicable	G2	S2	1977-07-01	Botanical
Nestronia umbellula	Nestronia, Conjurer's-nut,	Not Applicable	Not Applicable	G4	S3	1888-04-01	Botanical
Sceptridium lunarioides	Winter Grapefern	Not Applicable	Not Applicable	G4?	S1	1890	Botanical

B. Buffer Area - Species Report

The following table outlines rare, threatened or endangered species found within 1 miles of the project footprint, arranged in order of protection status and species name. Please keep in mind that this information is derived from existing databases and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. You can find more information about global and state rank status definitions by visiting Natureserve's web page. Please note that certain sensitive species found within the buffer area may be listed in this table but are not represented on the map.





Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS

Scientific Name	Common Name	Federal Protection Status	State Protection Status	G Rank	S Rank	Last Obs. Date	Туре
Clemmys guttata	Spotted Turtle	ARS: At-Risk Species	ST: State Threatened	G5	S3	2009-07-01	Zoological
Haliaeetus leucocephalus	Bald Eagle	Bald & Golden Eagle	ST: State Threatened	G5	S3B,S3N	2022	Zoological
Icterus galbula	Baltimore Oriole	MBTA: Migratory Bird	Not Applicable	G5	S3B,S4N	2014-02-26	Zoological
Alosa aestivalis	Blueback Herring	Not Applicable	Not Applicable	G3G4	S5	2021	Zoological
Alosa mediocris	Hickory Shad	Not Applicable	Not Applicable	G4	S4	2021	Zoological
Alosa sapidissima	American Shad	Not Applicable	Not Applicable	G5	S4S5	2022-05-04	Zoological
Cambarus aldermanorum	Carolina Needlenose Crayfish	Not Applicable	Not Applicable	GNR	S3	2006-08-10	Zoological
Sciurus niger	Eastern Fox Squirrel	Not Applicable	Not Applicable	G5	S3S4	1980-06-01	Zoological
Terrapene carolina	Eastern Box Turtle	Not Applicable	R: Regulated	G5	S3S4	2022-08-13	Zoological
Astragalus michauxii	Sandhills Milkvetch, Michaux's	Not Applicable	Not Applicable	G3	S2	1971-06-02	Botanical
Ludwigia spathulata	Southern Water-purslane	Not Applicable	Not Applicable	G2	S2	1977-07-01	Botanical
Magnolia pyramidata	Pyramid Magnolia	Not Applicable	Not Applicable	G4	S 1	1979-11-01	Botanical
Nestronia umbellula	Nestronia, Conjurer's-nut,	Not Applicable	Not Applicable	G4	S3	1888-04-01	Botanical
Sceptridium lunarioides	Winter Grapefern	Not Applicable	Not Applicable	G4?	S1	1890	Botanical

C. Species Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS



BMP Output

The SCDNR recommends that water construction-related activities such as dredging or piling installation be avoided during the months of February through April to limit disturbance to american shad, hickory shad, or blueback herring migrations that occur during this time.

Regarding spotted turtle (1 of 3): The spotted turtle (Clemmys guttata) is a state-threatened species and a federal At-Risk species (ARS). Spotted turtles may be allowed to be relocated into areas of suitable habitat, management, and conservation status; however, any plans for relocation should be submitted for review to SCDNR with a detailed description and images of the current and future habitat and proposed work plan and methodologies as it pertains to a relocation project. It should be noted that not all habitats are suitable for relocation.

- Avoid any construction in areas within or adjacent to aquatic resources (wetlands, streams, etc.) from January 15th through May 31st.
- Prior to any construction activity, install silt fencing from November 15th through January 15th. Silt fencing should include 45-degree arms to direct spotted turtles to the uplands adjacent to the waterbody and away from the construction site. The 45-degree arms should be placed at a minimum of 100 ft from the waterbody and no more than 300 ft from the waterbody. Additionally, silt fence arms should extend at least 50-ft and extend in each direction so that the ends of each 45-degree angle to the fence meet to form a triangle. Silt fencing should remain in place throughout the duration of the proposed construction activities.
- Prior to construction, monitor the silt fencing to ensure it is effectively working properly on a monthly basis. This should effectively exclude the species from the project area prior to construction activities. Once construction activities begin, the silt fence should be monitored weekly for the integrity of the fencing and the presence of spotted turtles or other herpetofauna or small wildlife species. If spotted turtles are encountered, the SCDNR state herpetologist should be notified immediately by calling 854-202-0472.

Regarding spotted turtle (2 of 3): Should the applicant not be able to install the silt fencing in accordance with the proposed window, it will require the applicant to install the exclusion fencing when the species is more active and has the potential to trap individuals with the area of proposed construction. Therefore, the SCDNR recommends checking the perimeter of the fencing twice daily for 14 days prior to ground disturbance and/or clearing in areas adjacent to and near these wetlands to ensure that spotted turtles are not trapped within the proposed project footprint.

Any turtles found within the construction area during this initial monitoring period and the construction monitoring period described below must be relocated. The relocation plan must be submitted to SCDNR for review prior to the installation of the silt fencing and the proper permits acquired from the SCDNR Herpetologist for the movement of a state protected species. Please contact the State Herpetologist by calling 854-202-0472.

C. Species Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to species of concern which may be found on or near to the project area. Please contact speciesreview@dnr.sc.gov should you have further questions with regard to survey methods, consultation, or other species-related concerns.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS



BMP Output

Regarding spotted turtle (3 of 3): For areas where construction will occur in wetlands, the SCDNR recommends the following to prevent the take of this state protected species:

• Surveys for the presence of spotted turtle in wetlands to be impacted should occur from February 15th – April 15th. The best window for visually identifying spotted turtles as well as successfully trapping is February to early May. Visual surveys are usually most effective February to April and trapping, usually March to May. All of this depends on water levels in the surveyed wetland habitat. If dry or extremely low water levels, neither method will be effective or appropriate. Spotted turtles utilize wetland habitat during certain times of the year, but during periods of drought or low water levels, spotted turtles will aestivate in the surrounding forests adjacent to wetlands. The SCDNR recommends one of the methods detailed in the Spotted Turtle Assessment Protocol developed by the Spotted Turtle Working Group be utilized. Following completion of surveys, the results should be submitted to SCDNR, and further coordination occur if spotted turtle are found to be present onsite.

An active bald eagle nest(s) is known to occur within or near to your project area. Surveys during the nesting season (October through May) to rule out nests in the project area are advised to avoid negative impacts to bald eagles. Eagle nests may occur in areas which have not yet been surveyed where suitable habitat is present, as the SCDNR does not survey every nest every year. Bald eagles are a state listed threatened species and are federally protected under the Bald and Golden Eagle Protection Act. If bald eagle nests are found to be within 660 feet of the project area, please consult with the U.S. Fish and Wildlife Service and the National Bald Eagle Management Guidelines to ensure that impacts are avoided to this species before proceeding with any construction activities.. https://www.dnr.sc.gov/wildlife/baldeagle/pdf/NationalBaldEagleManagementGuidelines.pdf https://www.fws.gov/sites/default/files/ documents/bald-eagle-monitoring-guidelines-2007.pdf

In the interest of preserving plant diversity, the South Carolina Plant Conservation Alliance performs native plant rescues in order to protect and preserve our diversity of native plants. If you are interested in assisting with this important endeavor please contact Mr. Keith Bradley at (803) 734-4032, or by email: BradleyK@dnr.sc.gov before any development occurs onsite. There may be plants of interest on the project site that the Alliance would like to preserve.

Species in the above table with SWAP priorities of High, Highest or Moderate are designated as having conservation priority under the South Carolina State Wildlife Action Plan (SWAP). SWAP species are those species of greatest conservation need not traditionally covered under any federal funded programs. Species are listed in the SWAP because they are rare or designated as at-risk due to knowledge deficiencies; species common in South Carolina but listed rare or declining elsewhere; or species that serve as indicators of detrimental environmental conditions. SCDNR recommends that appropriate measures should be taken to minimize or avoid impacts to the aforementioned species of concern.

D. Project Best Management Practices (1 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS



BMP Output

Review of available data, National Wetlands Inventory and hydric soils, indicate that wetlands or waters of the United States are present within your project area. These areas may require a permit from the U.S. Army Corps of Engineers (USACE), as well as a compensatory mitigation plan. SCDNR advises that you consult with the USACE Regulatory to determine if jurisdictional wetlands are present and if a permit and mitigation is required for any activities impacting these areas. For more information, please visit their website at www.sac.usace.army.mil/Missions/Regulatory. Additionally, a 401 Water Quality Certification may also be required from the SC Department of Health & Environmental Control. For more information, please visit their website at https://www.scdhec.gov/environment/water-quality/water-quality/certification-section-401-clean-water-act.

- All necessary measures must be taken to prevent oil, tar, trash and other pollutants from entering the adjacent offsiteareas/wetlands/ water.
- Once the project is initiated, it must be carried to completion in an expeditious manner to minimize the period of disturbance to the environment.
- Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover (preferable), riprap or other erosion control methods as appropriate.
- The project must be in compliance with any applicable floodplain, stormwater, land disturbance, shoreline management guidance or riparian buffer ordinances.
- Prior to beginning any land disturbing activity, appropriate erosion and siltation control measures (e.g. silt fences or barriers) must be in place and maintained in a functioning capacity until the area is permanently stabilized.
- Materials used for erosion control (e.g., hay bales or straw mulch) will be certified as weed free by the supplier.
- Inspecting and ensuring the maintenance of temporary erosion control measures at least:
 - a. on a daily basis in areas of active construction or equipment operation;
 - b. on a weekly basis in areas with no construction or equipment operation; and
 - c. within 24 hours of each 0.5 inch of rainfall.
- Ensuring the repair of all ineffective temporary erosion control measures within 24 hours of identification, or as soon as conditions allow if compliance with this time frame would result in greater environmental impacts.
- Land disturbing activities must avoid encroachment into any wetland areas (outside the permitted impact area). Wetlands that are unavoidably impacted must be appropriately mitigated.
- Your project may require a Stormwater Permit from the SC Department of Health & Environmental Control, please visit https://www.scdhec.gov/environment/water-quality/stormwater

D. Project Best Management Practices (2 of 2)

SCDNR offers the following comments and best management practices (BMPs) regarding this project's potential impacts to natural resources within or surrounding the project area. Please contact our Office of Environmental Programs at environmental@dnr.sc.gov should you have further questions with regard to best management practices related to this project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS



BMP Output

- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and lowgrowing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion and exclude plant species found on the exotic pest plant council list: https://www.se-eppc.org/southcarolina/SCEPPC_LIST2014finalOct.pdf.
- Review of available data, National Hydrography Dataset, indicates that streams or waters of the United States are present within your project area. These areas may require a permit from the U.S. Army Corps of Engineers (USACE), as well as a compensatory mitigation plan. SCDNR advises that you consult with the USACE Regulatory to determine if jurisdictional waters are present and if a permit and mitigation is required for any activities impacting these areas. For more information, please visit their website at www.sac.usace.army.mil/Missions/Regulatory. Additionally, a 401 Water Quality Certification or a State Navigable Waters permit may also be required from the SC Department of Health & Environmental Control. For more information, please visit the following websites:
 - https://www.scdhec.gov/environment/water-quality/water-quality-certification-section-401-clean-water-act
 - https://www.scdhec.gov/environment/water-quality/navigable-waters
- Excavation/Construction activities must not occur during fish spawning season from March through June due to its negative impacts on eggs and reproduction activities.
- If clearing must occur, riparian vegetation within wetlands and waters of the U.S. must be conducted manually and lowgrowing, woody vegetation and shrubs must be left intact to maintain bank stability and reduce erosion.
- Construction activities must avoid and minimize, to the greatest extent practicable, disturbance of woody shoreline vegetation within the project area. Removal of vegetation should be limited to only what is necessary for construction of the proposed structures.
- Where necessary to remove vegetation, supplemental plantings should be installed following completion of the project. These plantings should consist of appropriate native species for this ecoregion.

Your project area includes a FEMA special flood hazard area and may require a permit from the County National Floodplain Insurance Program Manager before impacts occur to aquatic resources and the associated floodplains on site. Please refer to https:// www.dnr.sc.gov/water/flood/documents/nfipadmindirectory.pdf to find your appropriate contact information.

All tributary crossings for road projects must be made with appropriately sized bridges and/or culverts. Culverts must be sized and designed to prevent alteration of the natural stream morphology. SCDNR prefers that arched or bottomless culverts are utilized; however, if using boxed culverts or pipes, the bottom elevation of the culvert or pipe must be at or below the stream bed elevation to allow for natural migration of aquatic organisms up- and downstream. Where feasible, disturbed stream banks should be restored by using bioengineering techniques for stream bank stabilization. Stream banks at crossings must be restored after construction has been completed. Disturbed stream banks can be restored by planting woody vegetation and by using bioengineering techniques for stream banks the planting woody vegetation.

E. State & Federally Listed Species in Richland County-Lexington County

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed projectarea. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area.



Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, NASA, NGA, USGS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS



County	Scientific Name	Common Name	G Rank	S Rank	Federal Protection Status	State Protection Status	Group Type
Lexington	Acipenser brevirostrum	Shortnose Sturgeon	G3	S3	LE: Federally Endangered	SE: State Endangered	Zoological
Lexington	Bombus pensylvanicus	American Bumble Bee	G3G4	SNR	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	Clemmys guttata	Spotted Turtle	G5	S3	ARS: At-Risk Species	ST: State Threatened	Zoological
Lexington	Dryobates borealis	Red-cockaded Woodpecker	G3	S2	LE: Federally Endangered	SE: State Endangered	Zoological
Lexington	Eurycea chamberlaini	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Lexington	Heterodon simus	Southern Hog-nosed Snake	G2	S1S2	Not Applicable	ST: State Threatened	Zoological
Lexington	Moxostoma robustum	Robust Redhorse	G1	S1	ARS: At-Risk Species	Not Applicable	Zoological
Lexington	Perimyotis subflavus	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Lexington	Lindera subcoriacea	Bog Spicebush	G3	S3	ARS: At-Risk Species	Not Applicable	Botanical
Richland	Acipenser brevirostrum	Shortnose Sturgeon	G3	S3	LE: Federally Endangered	SE: State Endangered	Zoological
Richland	Atrytone arogos	Arogos Skipper; Eastern Beard Grass Skipper	G2G3	SH	ARS: At-Risk Species	Not Applicable	Zoological
Richland	Bombus pensylvanicus	American Bumble Bee	G3G4	SNR	ARS: At-Risk Species	Not Applicable	Zoological
Richland	Cambarus spicatus	Broad River Spiny Crayfish	G3	S2	ARS: At-Risk Species	Not Applicable	Zoological
Richland	Clemmys guttata	Spotted Turtle	G5	S3	ARS: At-Risk Species	ST: State Threatened	Zoological
Richland	Corynorhinus rafinesquii	Rafinesque's Big-eared Bat	G3G4	S2	Not Applicable	SE: State Endangered	Zoological
Richland	Danaus plexippus	Monarch Butterfly	G4	S4	C: Candidate	Not Applicable	Zoological
Richland	Dryobates borealis	Red-cockaded Woodpecker	G3	S2	LE: Federally Endangered	SE: State Endangered	Zoological
Richland	Dryophytes andersonii	Pine Barrens Treefrog	G4	S2S3	Not Applicable	ST: State Threatened	Zoological
Richland	Elassoma boehlkei	Carolina Pygmy Sunfish	G2	S1	Not Applicable	ST: State Threatened	Zoological
Richland	Eurycea chamberlaini	Chamberlain's Dwarf Salamander	G4	S3	ARS: At-Risk Species	Not Applicable	Zoological
Richland	Haliaeetus leucocephalus	Bald Eagle	G5	S3B,S3N	Bald & Golden Eagle Protection Act	ST: State Threatened	Zoological
Richland	Heterodon simus	Southern Hog-nosed Snake	G2	S1S2	Not Applicable	ST: State Threatened	Zoological
Richland	Lithobates capito	Carolina Gopher Frog	G2G3	S1	ARS: At-Risk Species	SE: State Endangered	Zoological
Richland	Moxostoma robustum	Robust Redhorse	G1	S 1	ARS: At-Risk Species	Not Applicable	Zoological
Richland	Perimyotis subflavus	Tricolored Bat	G3G4	S1S2	LEP: Federally Endangered (Proposed)	Not Applicable	Zoological
Richland	Balduina atropurpurea	Bog Honeycomb-head, Purple Honeycomb-head, Purple Balduina	G2	S1	ARS: At-Risk Species	Not Applicable	Botanical
Richland	Echinacea laevigata	Smooth Purple Coneflower	G2G3	S3	LT: Federally Threatened	Not Applicable	Botanical
Richland	Lindera subcoriacea	Bog Spicebush	G3	S3	ARS: At-Risk Species	Not Applicable	Botanical
Richland	Lysimachia asperulifolia	Pocosin Loosestrife, 'Roughleaf Loosestrife'	G3	S1	LE: Federally Endangered	Not Applicable	Botanical
Richland	Sporobolus teretifolius	Wireleaf Dropseed	G2	S1	ARS: At-Risk Species	Not Applicable	Botanical
Richland	Tiedemannia canbyi	Canby's Cowbane	G2	S2	LE: Federally Endangered	Not Applicable	Botanical

F. Instructions for Submitting Species Observations

The SC Natural Heritage Dataset relies on continuous monitoring and surveying for species of concern throughout the state. Any records of species of concern found within this project area would greatly benefit the quality and comprehensiveness of the statewide dataset for rare, threatened and endangered species. Below are instructions for how to download the SC Natural Heritage Occurrence Reporting Form through the Survey123 App.

Map Credits: Sources: Esri, USGS, CNES/Airbus DS, InterMap, Kartverket, LINZ, NASA/METI, NASA/NGS, NLS Finland, NLSI, Ordnance Survey, SKGeodesy, Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, NPS, USDA, Esri, NASA, NGA, USGS



Conservation Ranks & SWAP Priority Status

The SC Natural Heritage Program assigns S Ranks for species tracked within the state of South Carolina based on ranking methodology developed by NatureServe and its state program network. For information conservation rank definitions, please visit https://explorer.natureserve.org/AboutTheData/Statuses

The SCDNR maintains and updates it's State Wildlife Action Plan (SWAP) every 10 years. This plan categorizes species of concern by Moderate, High, and Highest Priority. Please visit https://www.dnr.sc.gov/swap/index.html for more information about the SC SWAP.

Important Information Regarding Element Occurrence Data:

The South Carolina Department of Natural Resources' Heritage Trust Program organizes a database that captures and tracks element of occurrence data for rare, threatened and endangered species, both federal and state. Please keep in mind that this information included within this report is derived from existing databases, and do not assume that it is complete. Areas not yet inventoried may contain significant species or communities. If your project requires the assessment of potential threatened or endangered species that could be within the project area, the SCDNR asks that you include a review of the state listed species within the county or watershed in addition to those that may be within the report as being within the project footprint or within 1-mile of the proposed project area. Consideration should be given to the occurrence of suitable habitat onsite, species movement and connectivity of habitat when assessing the likelihood of a state listed species on the project area. To view these lists please visit our county and watershed dashboards at our website: https://schtportal.dnr.sc.gov/portal/apps/sites/#track

Instructions for accessing the SC Natural Heritage Occurrence Reporting Form

For use in a browser (on your desktop/PC):

- 1) Follow https://bit.ly/scht-reporting-form
- 2) Select 'Open in browser'
- 3) The form will open and you can begin entering data!

This method of access will also work on a browser on a mobile device, but only when connected to the internet. To use the form in the field without relying on data/internet access, follow the steps below.

For use on a smartphone or tablet using the field app:

1) Download the Survey123 App from the Google Play store or the Apple Store. This app is free to download. Allow the app to use your location.

2) Use the camera app (or other QR Reader app) to scan the QR code on this page from your smartphone or tablet. Click on the 'Open in the Survey123 field app'. This will prompt a window to allow Survey123 to download the SC Natural Heritage Occurrence Reporting Form. Select 'Open.'

3) The form will automatically open in Survey123, and you can

begin entering data! This form will stay loaded in the app on your device until you manually delete it, and you can submit as many records as you like.



Appendix C

Potential Suitable Bat Roosting Habitat Maps



















Appendix D

Representative Photographs



Photograph 2 – Phase 3, Unnamed Culvert (Box) 1010



Photograph 4 – Phase 3, Culvert EP-2201 – Inaccessible



Photograph 5 – Phase 3, Bridge 4604: I-20 over Saluda River



Photograph 6 – Phase 3, Culvert EP 2121 (Pipe) – Inside view



Appendix E

Bat Habitat Survey Forms

Bat Habit	tat Asses	sment	Form		
				Culvert	ts
Observers: SE/EP	TIP or D	OT project numb	er: ,	<	
Date: 6/26/23	Road Na	me above culver	t: 1 .	Z D	
County: R:chland	Structur	e _i #: <u>EC-</u>	4201		
Name of the feature culvert is carrying (stream):UT Salu	da River			
% Surrounding habitat w/in 1 mi.	Urban/commercial		Suburban/ı	esidentia	I
of project footprint (approx)	Herb/Shrub/Grassla	nd	Agricultural		
	Deciduous/Evergre	en/Mixed Forest	t		
	Woody Wetland/	Herb Wetland,	/OpWatee2		
Any trees L3" DBH within project footprint?	N/A yes		n		
Complete this section for Indiana bat counties	(Cherokee, Clay, Grah	nam, Haywood, Ja	ackson, Macor	i, Swain,	
Rutherford: Bat Cave/Lake Lure area only)	"				
Any trees or snags 15" DBH with exfoliating (sh	hag) bark c dvices	?	N/A	yes	no
If yes to shag/snag, how much sunlight do they	y receive during the d	ay? N/A	1-3 hours	4-6 hour	s 7+ hours
If yes to shag/snag, list spp of habitat trees 15"	db				
If large hollow trees or snags ?5"DBH are pre	esent in sunlit areas,	provide photos	and location.		
Presence of:	In proje	ctfootprint	In vicinty (0.5 mi)	
caves	yes	mo	yes	no	
abandoned mines	yes	no	yes	no	
If'yes' to any of the above, provid	de description and lo	ocation.			
Major water source in project footprint:	N/A river	m_/cre	ek pond	lake	swamp
Suitable drinking habitat in the form of non s	stagnant, smooth or	slack water area	s? yesG	no	N/A
Structure specific questions:			tinghor	motol	
Guard rails	none?	concrete	timber	metai	
Number of barrols:		triplo otc)	metai	plastic	
Culvert beight:	(double, Culvert width: "	11 11	Culvert lengt	h٠	
If culvert is buried/crushed/sedim	entation observed na	arrowest opening	height:	 	
Culvert type	pipe	Xbox	arch	other	
Openings protected from high wir	nds	no			
Crevices present:	ves/	no			
Rough surfaces, imperfections, bi	ird nests yes/	no			
Human disturbance in culvert	high	med	low	nonel	
Depth of water in culvert (if applic	cable)				
Delew continue completed only if bets (or iden	a afbata abaamiadi	Evidence of I	a ta usina D		\bigcirc
Emergence count performed? (If yes complete	to form)	Evidence of i	Jatsusing	yes	Cuno
Evidence of bats using bird pacts, if prosent		yes	(10)		
Type of evidence	a Li Cound	yes	11U staining	hate	
Poost material ATA	5/13 100	concrete	metal	other	
Roost material IVV	V *	concrete	metal	ould.	
Bat species present:			an anatar	0.011	io t ot
					elel

-		Bat Hal	bita	at A	sses	sment	Form	1	
	st.	/						Culvert	S
Observers:		SE/EP			TIP or DO	Tproject numb	er: LAYD	lina G	USTOADS
Date:		6/26/23			Road Na	me above culve	rt: 7-2	0	<u></u>
County:	R	:chland			Structure	e #:EP	- 4-001		
Name of th	e feature o	culvert is carrying (st	ream):	<u> </u>	Saluc	a River	erfandelik van die konstantie aan d		
% Surroun	ding habita	ıtw∕in1mi	ι	Jrban/co	ommercial		Suburban	/residentia	al
of project	footprint(approx)	ŀ	lerb/Shr	ub/Grassla	ind	Agricultural	,	
		,	[Deciduou	Is/Evergreer	n/Mixed Forest	0		
			١	Noody W	Vetland/Her	b Wetland/Ope	n Water		
Any trees	3" DBH wi	thin project footprir	nt?		N/A		yes		
Comptete	JJzis sectio	n for Indiana bat cou	inties (Cheroke	e, Clay, Gra	ham, Haywood,	Jackson, Ma	con, Swain	,
Rutherfor	d: Bat Cavl	afleLur+ area only)					_		
Any trees	or snags ú	5" DBH with exfolat	ng (sha	ag) bark	or crevices	?	N/A	yes	no
If yes to sh	ag/snag, h	ow much sunlight do	o they r	eceive d	uring the òa	ay? N/A	1-3 hours	4-6 hours	7+hours
If yes to sn	ag/snag, lis	st spp of habitat tree	su5° d	bn tin cunli	it aroog pro	urido nhotos on	llocation		
If large no	now trees o	or snags k5 DBH are	presen	it in suni	it areas, pro	ovide photos and	l location.		
Presence	of:				In projec	ct footprint	In vicinty	(0.5 mi)	
	caves				yes	,no	yes	no	
	abandor	ned mines			yes	no	yes	no	
	If 'yes' to	any of the above, p	rovide	descript	ion and loc	ation.			
Major wat	er source i	n project footprint:		N/A	river	ett/creek	c pond	lake	swamp
Suitable d	rinking hat	bitat in the form of n	onstag	nant, sm	ooth or slad	ck water areas?	eds	no	N/A
Structure	specific qu	estions:							
	Guard ra	aiis			none/	concrete	timber	metal	
	Culvert	material			çoncret	e¿ timber	metal	plastic	
	Number	of barrels:		<u>.</u>	(double, t	riple, etc.)			
	Culvert	neight: +/ '		Culvert	width:	*)	Culvert leng	th:	
	If culvert	tis buried/crushed/s	eaimer	itation, c	boserved na	rrowest opening	g neight:		
	Cuivert	type	igh wir	de	piped	DOX	arcn	other	
	Crevices	s protected from fi	igii wii	ius	yesv	no			
	Roughs	urfaces imperfecti	ons hii	rd nests	ves	no			
	Human	disturbance in culv	ert	a nests	high	med	low	none	
	Depth o	f water in culvert (i	f applio	able)	,	mea		none	
				C		_			
Below sec	ction comp	leted only if bats/ev	idence	of bats of	observed:	Evidence of	bats using?	yes	no"
Emergeno	e count pe	normed: (If yes, car	TIPIETE	iorm)	CANN	ves	no		
	vidence	is bit difests, il prese		. Dut	5 YOU	yes	staining	hate	
Roost ma	iterial		N	0 ()00	85	concrete	metal	other.	
Rat speci	es nrecent		l a				metar	ource.	
Nonce n	ude de	tionobtoa	th	u e	et	bu d	aaenes	ецуе	e t et
								2 4 70	

Bat Habit	at As	sess	ment f	orm		
Observers: "'!'! Date: County:		TIP or DOT Road Name Structured:	project number: above culvert:	<u>Lavoliv</u> I-20 (EC-	Culverts na Crossroads 3902)	3
Name of the feature culvert is carrying (stream	ı):	+	luda Rive	ir	5797. 	
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/com Herb/Shrut Deciduous/I Woody Wet	imercial b/Grassland Evergreen/I tland/Herb	_(/ d A Mixed Forest Wetland/Open \	Suburban/ gricultural Water	residential	
Complete this section for Indiana bat counties	(Cherokee.)	Clav. Graha	m. Haywood, Ja	ckson. Mac	on Swain	
Rutherford: Bat Cave/Lake Lure area only) Any trees or snags a5" DBH with exfoliating (If yes to shag/snag, how much sunlight do they If yes to shag/snag, list spp of habitat trees ?5"	shag) bark o y receive duri dbh	r crevices? ing the day	? N/A	N/A 1-3 hours	yes no 4-6 hours 7+ hour	s
		it aleas, pro	ovide priotos ar			
Presence of:		In project f	ootprint	In vicinty (0.5 mi)	
abandoned mines		ves	no	ves	no	
If 'yes' to any of the above, provid	e descriptio	n and locati	on.	,		
Major water source in project foot print:	N/A	river	ste / ee	pond	lake swamp	
Suitable drinking habitat in the form of non sta	agnant, smoo	othorslack	water areas?	e	no N/A	
Guard rails		none '	concrete	timber	metal	
Culvert material		Concrete	timber	metal	plastic	
Number of barrels:	(0	double, trip	ole, etc.)			
Culvert height: ! '	Culvert wie	dth: !	, (Culvert lengt	h:	
If culvert is buried/crushed/sedim	entation, obs	erved narro	owest opening h	eight:		
Culvert type		ріре	boH	arch	other	
Openings protected from high will	nas	yes	no			
Crevices present.	ird posts	yes	10			
Human disturbancein culvert	inumests	yes high	med	low	none	
Depth of water in culvert (if applic	cable)	/	incu	1011	none	
Below section completed only if bats/evidence Emergence count performed? (If yes, comple Evidence of bats using bird nests, if present?	e ofbats ob teform)	served:	Evidence of ba yes yes	ts using? "not <not< td=""><td>yes no</td><td></td></not<>	yes no	
Type of evidence	, n.t.	Lound	guano	staining	bats	
Roost material N	0 BATS	[· v ··	concrete	metal	other:	
Bat species present:						
Notes in ude des ti n o bat at n with	n cu e	e tat o	obud rai	na e ets r	ns de cu ert et	

						Culver	·c
Obcorvorce	SELEP			nraiaat num		va la	IS VAA
Doservers:	6/27/23		Road Nam	e above culv	per: /	PIPE PEG	1 47 28 8 (21 64 L
	V RYINIATOR		Structure f		2901		
Nome of the fe	aturo culvort is parrying (stream	a): 11	T'Salua	1 tziler			
Name of the le	ature cuivert is carrying (stream	nj. <u> </u>	1 -4/4/4	11.1001			
% Surrounding	habitat w/in 1 mi.	Urban/co	ommercial		Suburban	/residentia	al
ofprojectfootp	rint (approx)	Herb/Shr	rub/Grasslan	d	Agricultur	al O	
		Deciduo	us/Evergreer	/Mixed Fore	st 15		
		Woody W	/etland/Herb	Wetland/Op	en Water		
Any trees ?3" D	BH within project footprint?		N/A		yes		0
Complete this s	section for Indiana bat counties	(Cherokee,	, Clay, Grahar	n, Haywood,	Jackson, Maco	n, Swain,	
Rutherford: Ba	it Cave/Lake Lure area only)						
Any trees or si	nags US" DBH with exfoliating	(shag) bark	c or crevices	þ	N/A	yes	no
fyes to shag/s	nag, how much sunlight do the	y receive d	uring the day	? N/A	1-3 hours	4-6 hours	57+ hours
fyes to shag/s	nag, list spp of habitat trees ?5'	'dbh					
f large hollow	trees or snags ?5"DBH are pro	esent in su	nlit areas, pr	ovide photo	s and location		
Presence of:			In project	footprint	In vicinty	(0.5 mi)	
са	ves		yes		yes	n	
ab	andoned mines		yes	0	yes		
If '	yes' to any of the above, provid	le descripti	on and locati	on.			
Majorwaters	ource in project footprint:	NI/A	rivor	/stroom/cro	oeks nond	lako	swamp
Suitable drink	ing habitat in the form of non	stagnant o	smooth or sl	ack water are	eas? eds	no	N/A
Structure spe	cific questions:	Stabilant, s				110	.,,,,
G G G G	uard rails		one	concrete	timber	metal	
Ci	ulvert material		concretes	timber	metal	plastic	
N	umber of barrels:		(double, tri	ole. etc.)		•	
Ci	llvert height:	Culvert	width: /	,	Culvert leng	eth: / (5
lf	culvert is buried/crushed/sedim	nentation. c	bserved nari	owest openir	ng height:	, , , , , , , , , , , , , , , , , , ,	
Ci	Ilvert type	,	nine	08	arch	, other	
	nenings protected from high y	vinds	pipe	no	arch	other	
C	revices present.	VIIIus	eds	no			
R	augh surfaces imperfections	hird nests	eus o	no			
Н	uman disturbancein culvert	bird fiests	high	med		none	
ים ייי	enth of water in culvert (if annli	cable)					
)"				
			·				
Below section	completed only if bats/evidence	ce of bats o	observed:	Evidence of	f bats using?	yes	not
Emergence co	ountperformed? (Ifyes, comple	ete form)		yes	no		
Evidence of ba	its using bird nests, if present?	, 4	CIANNA	yes	no		
Type of evider	nce	ANG	K DALL	guano	staining	bats	
Roost materia	I NO	Y)M(Y)		concrete	metal	other:	
Bat species p	esent:						

						Culvert	S
Observers:	SELEP		TIP or DOT	project numbe	er: Cuvoli	na cros	sroads
Date:	6/27/29		Road Nam	e above culver	t: I - 12	6	
County:	Richland		Structure #:	EP-	510Z		
Name of th	e feature culvert is carrying (st	ream):	И	"14 ludu R	iver		
% Surround	ding habitat w/in 1 mi.	Urban/c	commercial	u	Suburban/	/residentia	1
of project f	footprint (approx)	Herb/Sh	rub/Grassland		Agricultural		
		Deciduo	us/Evergreen/	Mixed Forest			
		Woody\	Wetland/Herb	Wetland/Ope	nWater /	′ 6	
Any trees ?	3" DBH within project footprir	nt?	N/A		yes		mo
Complete	this section for Indiana bat co	ounties (Chero	kee, Clay, Gra	ham, Haywoo	d, Jackson, N	lacon, Swa	ain,
Rutherford	l: Bat Give/Lake Lure area on	ly)			ana any amin'ny fisia amin'ny fisia amin'ny fisia dia mampiasa amin'ny fisia dia mampiasa dia mampiasa dia mampi		
Any trees o	or snags 15" DBHwith exfolJa	ng (shag) bark	or crevices?	Albertan -	N/A	yes	no
If yes to sh	lag/snag, how much sunlight	do they recetv	ec!urín the da	iy? N/A	1-3 hours	4-6 hours	7+ hours
If yes to sha	ag/snag, list spp of habitat tree	sú5" dbh					
If large hol	llow trees or snags ?5"DBH ai	re present in si	unlit areas, pr	ovide photos a	and location.		
Presenceo	of:		Inproject	footprint	In vicinty (0.5 mi)	
	caves		ves	0	ves	.no/	
	abandoned mines		yes	/flo	yes	no	
	li 'yes' to any of the above, pr	ovide descript	ion and locatio	on.			
Maiorwat	er source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
, Suitable di	rinking habitat in the form of n	on stagnant, sr	nooth or slack	water areas?	est	no	N/A
Structure	specific questions:	0 /					•
	Guard rails		none	concrete	timber	metal	
	Culvert material	,	concrete	timber	metal	plastic	
	Number of barrels:	/	(double, trij	ole, etc.)			
	Culvert height:	Culvert widt	h:""		Culvert leng	th:	"
	If culvert is buried/crushed/s	edimentation,	observed narro	owest opening	height:		"
	Culvert type		pre	box	arch	other	
	Openings protected from hi	ghwinds	Eyes	no			
	Crevices present:		yes	no			
	Rough surfaces, imperfection	ons, bird nests	,•yes	no			
	Human disturbance in culver	rt	high	nned	Clow	none	
	Depth of water in culvert (if	applicable)	1.,				
Belowsec	tion completed only if bats/ev	vidence of bats	observed:	Evidence of b	ats using?	ves (no
Emergenc	ce count performed? (If ves. co	mplete form)		ves	(po)	,	\Box
Evidence	of bats using bird nests, if prese	ent?	>	yes	(no)		
Type of ev	vidence) to a	Lound	, guano	staining	bats	
Roost mat	terial	IN YATIS	1 .	concrete	metal	other:	
Bat specie	es present:	V V					

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habit	tat Ass	essment	Form	l		
Observers: SE/EP Date: $6/27/23$ County: $R'Uh and$	TIP Roa Str	or DOT project numl adNameaboveculver ucture #:	ber: <u>Carol</u> , t: 5101	Culverts na <i>Cross roads</i>		
Name of the feature curvert is carrying (stream	I). <u> </u>	201444	VCY			
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/comme Herb/Shrub/G Deciduous/Eve WoodyWetlar	ercial rassland rgreen/Mixed Forest nd/Herb Wetland/Op	Suburban/ Agricultural ven Water /	residential - /		
Any trees > 3" DBH within project footprint?	N/A	A / Graham Haywood	yes	on Swain		
Rutherford: Bat Cave/Lake Luceneaea Any trees or snags 5" DBH with exfolia g (sl If yes to shag/snag, howjltuch softlight do the If yes tD Shag/snag, list spp of habitat trees ?5" If large hollow trees or snags ?5"DBH are pre	hag) baTk or crev y receive during dbh esent in sunlit a	vices? the day? N/A reas, provide photos	NQ 1-3 hours andlocation.	yes no 4-6 hours 7+ hours		
Processo of:	In	project featurint	In vicinty (0.5 mi)		
caves abandoned mines If 'yes' to any of the above, provid	ye: le description an	d location.	yes yes	0 0 0		
Major water source in project footprint: Suitable drinking habitat in the form of non sta Structure specific questions:	N/A riv agnant, smooth	er stream/crea orslackwater areas?	e pond eye	lake swamp no N/A		
Guard rails Culvert material Number of barrels:	ftc, to dou)	ne concrete ncrete /timber Ible, triple, etc.)	timber metal	metal plastic		
Culvert height: /< If culvert is buried/crushed/sedim Culvert type	Culvert width entation, observ pij	: red narrowest openin pebody	Culvert leng g height: arch	th:460' 6 other		
Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert Depth ofwater in culvert (if applic	nds Yes ye ird nests "ye hij cable)	"no s no es" no gh med	low	none		
Below section completed only if bats/eviden Emergence count performed? (If yes, comple Evidence of bats using bird nests, if present Type of evidence	ce of bats obser ete form) ? BAS FO	ved: Evidence of yes yes ju ves guano concrete	bats using? no staining metal	yes no bats other:		
Bat species present: Notete n ude des i tion of bat oca wit	:h u ve	e ta o bu du	a na e n et	de cuve etc		
Bat Habi	tat A	Assess	ment	Forr	n	
---	---	---	--	---	--	-------------------------
Observers:SEIEP		TIP or DOT	project numb	er: <u>Cavol</u>	Culver	ts <u>&roads</u>
Date:		Road Nam	e above culve	rt: <u>U/jname</u>	ed Rd	
County: Cichland		Structure #	: Un <u>humen</u>	Pipe -	- 1001	
Name of the feature culvert is carrying (stream): <i>\</i>	11 54161	1 R. Ver			
%Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercial Herb/Shrub/Grassland Deciduous/Evergreen/Mixed Forest Woody Wetland/Herb Wetland/Op		Suburbar Agricultura : Wateer	n/resident Il	ial "	
Any trees ?3" DBH within project footprint?	,	N/A		yes		0
Complete this section for Indiana bat counti Rutherford: Bat Cave/Lake Lure area only)	es (Chero -	kee, Clay, Gra "	iham, Haywoo	d, Jackson,	Macon, Sv	vain,
Any trees or snags ?5"'D@I-Fwit6exfoltating (S	bag)bark c	or crevices?		N/A	yes	no
If yes to shag/snag, how much sunlight do the	y receive o	during the day	/? N/A	1-3 hour	s 4-6 hour	s 7+ hours
If yes to shag/snag, list spp of habitat trees ?5'	dbh	- ,				
If large hollow trees or snags ?5"DBH are pre	sent in su	nlit areas, pro	ovide photos a	nd location.		
Presence of:		Inproject	footprint	In vicinty	/ (0 5 mi)	
caves		ves	0	ves		
abandoned mines		ves	n	ves	ho	
If 'yes' to any of the above, provid	le descrip	tion and locat	ion.			
Major water source in project footprint:	N/A	river	t ce	pond	lake	swamp
Suitable drinking habitat in the form of non sta Structure specific questions:	agnant, sn	nooth or slack	water areas?	¿/ e """	no	N/A
Guard rails		, none	concrete	timber	metal	
Culvert material		concrete	/timber	metal	plastic	
Number of barrels: /		(double, tri	ple, etc.)			. /
Culvert height:	Culvert	width: '	//	Culvert len	igth:	00'
If culvert is buried/crushed/sedim	entation,	observed narr	owest opening	height:	5	
- · · · ·						
Culvert type		pipe	box	arch	other	
Culvert type Openings protected from high wi	nds	pipe ye	box мо	arch	other	
Culvert type Openings protected from high wi Crevices present:	nds	pipe ye	box мо по	arch	other	
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b	nds ird nests	pipe ye ",Eyes	box ™ no no	arch	other	
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert	nds ird nests	pipe ye ",Eyes high	box ^{MO} no med	arch ноw	other	
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert Depth of water in culvert (if appli	nds ird nests cable)	pipe ye ",Eyes high <i>f"</i>	box ™ no med	arch ноw	other	
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert Depth of water in culvert (if appli Below section completed only if bats/evidence Emergence count performed? (If yes, completed in the completed on the co	nds ird nests cable) ce of bats te form)	pipe ye ",Eyes high <i>f</i> " observed:	box MO no med Evidence of b yes yes	arch ноw pats using? No	other none yes	no
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert Depth of water in culvert (if appli Below section completed only if bats/evident Emergence count performed? (If yes, comple Evidence of bats using bird nests, if present? Type of evidence	nds ird nests cable) ce of bats te form) $\Omega_{\rm c}$ n- U	pipe ye ",Eyes high <i>f</i> " observed:	box MO no med Evidence of b yes yes guano	arch ноw pats using? No staining	other none yes bats	no
Culvert type Openings protected from high wi Crevices present: Rough surfaces, imperfections, b Human disturbancein culvert Depth of water in culvert (if appli Below section completed only if bats/evidence Emergence count performed? (If yes, comple Evidence of bats using bird nests, if present? Type of evidence Roost material	nds ird nests cable) ce of bats te form)	pipe ye ",Eyes high <i>f</i> " observed:	box MO no med Evidence of b yes yes guano concrete	arch ноw pats using? No staining metal	other none yes bats other:	no

Bat Habita	at A	ssess	ment l	orm		
SE EP		TIPorDOT	nroiect number:	Covol.	/UIVOFt	S SEL AGO
Diservers		Road Nam	e above culvert.	IAM IN A IA	ned R	and
County: Richic		Structure #	+ IInnAMed	P'PP	1002	<u>OUXA</u>
Jame of the feature culvert is carrying (stream):		INT SA	Tuda Riv	PY	1000	
			<u> </u>	<u></u>		
6 Surrounding habitat w/in 1 mi.	Urban/co	ommercial	"	Suburban	/residentia	al '''
f project footprint (approx)	Herb/Shr	ub/Grassland	A	gricultural		
	Deciduou	us/Evergreen/	Mixed Forest	'Τ	Woody	
,	Wetland	/Herb Wetla	nd/Open Water	ZK		
Any trees 23" DBH within project footprint?		N/A		yes	,	mo
Complete this section for Indiana bat counties	(Cherok	ee, Clay, Gra	ham, Haywood,	Jackson, N	lacon, Swa	ain,
utherford: Bat Cave/Lake Lure area only)						
ny trees or snags ?5" DBH with exfoliating (sl	nag) bark	k or crevices)	N/A	yes	no
fyes to shag/snag, how mu ^{ch} sunlightdo they r	rece ve d	uring the day	? N/A	1-3 hours	4-6 hour	7+ hours
fyes to shag/snag, list spp of habitat trees ?S" d	bh					
f large hollow trees or snags ?5"DBH are pres	ent in su	ınlit areas, pı	ovide photos ar	d location.		
Presence of:		In project	footprint	In vicinty ((0.5 mi)	
caves		yes	,rio	yes	,no;	
abandoned mines		yes	no	yes	no	
If'yes' to any of the above, provide	descript	ion and locat	ion.			
Major water source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stag	gnant, sn	nooth or slac	< water areas?	yes	no	N/A
Structure specific questions:						
Guard rails		none .	concrete	timber	metal	
Culvert material		,concrete	timber	metal	plastic	
Number of barrels:		(double, tri	ple, etc.)			. /
Culvert height:	Culvert	width:	(Culvert leng	th: <u> </u>	<u></u>
If culvert is buried/crushed/sedime	ntation, o	observed narr	owest opening h	eight:	4	
Culvert type		< pipe	bOH	a£Ch	other	
Openings protected from high wind	ds	yes >	no			
Crevices present:		yes "j	no			
Rough surfaces, imperfections, bir	dnests	yes"	no			
Human disturbancein culvert		high	med	HOW	none	
Depth of water in culvert (if applica	able)	/				
Below section completed only if bats/evidence	ofbats	observed:	Evidence of ba	ts using?	ves	n
Emergence count performed? (If ves, complet	e form)		yes	no)		
Evidence of bats using bird nests. if present?	,		, ves	, no		
Type of evidence	[\ . C	-ON V	guano	staining	bats	
Roost material	SAL	V	concrete	metal	other:	
Bat species present:						
Note nude a cit no bat at o with n	цve	ontat	o hu du dee	e oto	n de cu ve	rt etc

Bat Habi	tat Asses	sment	Form	1
Observers: $SE EP$ Date: $6 27 23$	TIP or D Road N	OT project numb ame above culve	er: <u>(477)</u> ert: <u>Rail</u>	Culverts in a <u>coss roa</u> ds road
County: Richland	Structu	re #:	- 4903	
Name of the feature culvert is carrying (strear	n):	Saluda R	'iver_	
,	,	1		
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/commercia Herb/Shrub/Grass Deciduous/Evergre Woody Wetland/H	l land en/Mixed Forest erb Wetland/Ope	Suburban, Agricultural / n Water	/residential
Any trees >3" DBH within project footprint?	N/A		yes	.rn
Complete ths section for Indiana bat counties Rutherford: Bat Cave/Lake Lure area only) Any trees or snags 15" DBH with exfofiating If yes to shag/snag, how much sunlight do th If yes to shag/snag, list spp of habitat trees ?5 trees or snags ?5"DBH are present in sunlit a	(Cherokee, Clay, Graf ; (shag) bark or crevic ey receive dwtng the 5" dbh ireas, provide photos	iam, Haywood, Ja es? da? N/A <i>"</i> and location.	N hotlrs	n, Swain, 4 6 hours + hours If large hollow
Presence of:	Inproje	ectfootprint	In vicintv	(0.5 mi)
caves	ves	0	, ves	,no
abandoned mines	ves	.mo+	ves	no
If 'yes' to any of the above, provi	de description and lo	cation.	,	
Major water source in project footprint:	N/A river	stream/cree	k pond	lake swamp
Structure specific questions:	tagnant, smooth of si	ack water areas?	yes >	no n/A
Guard rails	none	<concrete< td=""><td>timber</td><td>metal</td></concrete<>	timber	metal
Culvert material	o re	t timber	metal	plastic
Number of barrels:	(double,	triple, etc.)		
Culvert height:	Culvert width:		Culvert leng	th:
If culvert is buried/crushed/sedir	nentation, observed n	arrowest opening	theight:	1
Culvert type	pipe	\.box	arch	other
Openings protected from high w	vinds (ves	no	-	
Crevices present:	<"ves	no		
Rough surfaces, imperfections.	hird nests ves	no		
Human disturbancein culvert	high	med		none
Denth of water in culvert (if ann	licable) 7 ""	mea		hone
Below section completed only if bats/evider Emergence count performed? (Ifyes, compl Evidence of bats using bird nests, ifpresent Type of evidence Roost material	nce of bats observed: ete form) ? BMKG (TMM)	Evidence of yes yes guano concrete	bats using? no no staining metal	yes no bats other:
Bat species present: Note i c ude de r t n o bat ca i w	thi u e e	atobd	anae es	s de cu e t etc

Observers: <u>SELEP</u>		TIP or DO	T project numbe	r: @/ <u>valiv</u>	Culver	ts <u>Svoad</u>
Date: 6/27/23	3	Road Nar	ne above culvei	t: <u> </u>	26	
County: <u></u>	1 <i>d</i>	Structure	#: <u>FC.</u> -	4901		·····
Name of the feature culvert is carr	rying (stream):	<u> </u>	INDIA R.	Ver		
% Surrounding habitat w/in 1 mi.	Urban/	commercial		Suburban	/residenti	al
of project footprint (approx)	Herb/S	hrub/Grassla	nd	Agricultural		
	Deciduo	ous/Evergreen	/Mixed Forest	/		
	Woody	Wetland/Her	b Wetland/Oper	Water		
Any trees >3" DBH within project i	tootprint?	N/A	am Hayayaad	yes	con Curai	ono "
Rutherford: Bat Cave/Lake Lure :	area only)	ee, Clay, Graf	iaiii, ⊓ayw000,	Jacksoff, IVIa	Lon, Swall	Ι,
Any trees or snags 15" DBH with	exfoliating (shag) ba	rk or crevices	;?	N/A	ves	no
If yes to shag/snag, how much sur	nlight do they receive	during the da	y? N/A	1-3 hours	4-6 hou	rs 7+ hours
If yes to shag/snag, list spp of habi	itat trees ?5" dbh					
If large hollow trees or snags ?5'	"DBH are present in s	sunlit areas, p	provide photos	and location	•	
Presence of:		In project	footprint	In vicinty	(0 S mi)	
caves		ves	liootpinit	ves	(0.3111)	
abandoned mines		yes		yes	no	
If 'yes' to any of the a	bove, provide descrip	tion and locat	ion.			
Major water source in project foo	otprint: N/A	river mooth or cloc	'stream/creek	pond	lake	swamp
Suitable drinking habitat in the lo	irm of non stagnant, s	mooth of slac	k water areas?	yes "	no	N/A
Guard rails		none	concrete >	timber	metal	
Culvert material		concrete	timber	metal	plastic	
Number of barrels:	1	(double, tr	iple, etc.)			/
Culvert height:	" Culver	t width:	"	Culvert leng	gth: /	
If culvert is buried/cr	ushed/sedimentation,	observed nar	rowest opening	height:	<u>S″"</u>	
Cuivert type	from high winds	pipe	//box	arch	other	
Crevices protected	n on mgn winds	e e	no			
Rough surfaces, impe	erfections, bird nests	¿еТ	no			
Human disturbance i	in culvert	high	med	low	<money< td=""><td></td></money<>	
Depth of water in cul	lvert (if applicable)					
Delevise encodered and the	hata lauidanan aftat	a ha a miradi	Fuidence - fl			(
Energence count performed? (1)	bals/evidence of bals)		no no	yes	(no
Evidence of bats using bird nests	ifpresent?	Y JOIN	ves	(no		
Type of evidence	O al	G YUM	guano	staining	bats	
	Par		concrete	metal	other:	
Robspaciae paesent:						

Bat Habit	tat A	sses	sment	Form	Ì	
					Culvqrt	s Culverts
Observers: <u>SEEP</u>		TIP or D	OT project numbe	er:		
Date: 6/12/7/23		Road Na	meabove culvert:		@	
County: <u>Kichland</u>		Structur	e#: EC-20	001		
Name of the feature culvert is carrying (strea	am):					
% Surrounding habitat w/in 1 mi.	Urban/co	mmercial		Suburban	/residentia	al
of project footprint (approx)	Herb/Shru	ub/Grassla	and /	Agricultural		
	Deciduous	/Evergree	n/Mixed Forest			
	Woody \	Netland,	/Herb Wetland,	/Open 🗸	'ater	S
Any trees > 3" DBH within project footprint?		N/A		yes		mo
Complete this section for Indiana bat countie	es (Cheroke	e, Clay, G	iraham, Haywood	, Jackson, N	lacon, Swa	ain,
Rutherford: Bat Cave/take Lure area only)			_	_		
Any trees or snags ?5" DBH with exfoliating (shag) bark	or crevice	es?	N/A	yes	no
ltyesto shag/snag, how much sun4ghtdothey	/receivedu	uringthe	day? N/A	1-3 hours	4-6 hour	s 7+ hours
If yes to shag/snag, list spp of habitat trees ?5"	dbh					
If large hollow trees or snags 25"DBH are pre	esent in sur	llit areas,	provide photos ai	ndlocation.		
Presence of:		In proje	ct footprint	In vicinty (0.5 mi)	
caves		yes	0	е		
abandoned mines		yes		у,	<i>,.,</i>	
If 'yes' to any of the above, provid	e descriptic	on and loca	ation.			
Major water source in project footprint:	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non sta	agnant, smo	ooth or sla	ack water areas?	<yes< td=""><td>no</td><td>N/A</td></yes<>	no	N/A
Structure specific questions:						
Guard rails			concrete	timber	metal	
Culvert material		concret	te. timber	metal	plastic	
Number of barrels:		(double, t	triple, etc.)		, ,	2 5 4
Culvert height: /v	Culvert w	/idth:	/c "	Culvert leng	th: <u>/</u>	100
If culvert is buried/crushed/sedime	entation, ol	oserved na	arrowest opening h	neight:	6	
Culvert type		pipe		arch	other	
Openings protected from high wi	nds	syst	no			
Crevices present:		yes	no			
Rough surfaces, imperfections, bi	irdnests	eyes	no	\square		
Human disturbancein culvert		high	med	low	none	
Depth of water in culvert (if applie	cable)	"				
Below section completed only if bats/evidence	e of bats ob	served:	Evidence of ba	ats using?	yes	go
Emergence count performed? (If yes, complet	te form)		yes	knob	-	
Evidence of bats using bird nests, if present	?		yes	0		
Type of evidence	1/		guano	staining	bats	
Roost material	的而已		concrete	metal	other:	
Bat species present: $\int \nabla \nabla$						

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culverts etc.)

Bat Habitat A	ssess	ment	Form	۱	
Observers: $5E EP$ Date: $6/27/2.3$	TIP or DOT Boad Nam	project number	<u>Cavoli</u>	Culver na Cros	ts <u>Sroads</u>
County: Richland	Structure #	: (Inham)	ed Pipe	1009	7
Name of the feature culvert is carrying (stream):	LS	atuda R	Ver		
% Surrounding habitat w/in 1 mi. Urban/co	ommercial		Suburban/	′residenti	al
af project footprint (approx) Herb/Shr	ub/Grassland	Α	gricultural		
Deciduou	us/Evergreen/	Mixed Forest			
Woody V	Vetland/Herb	Wetland/Open V	Water		
Any trees >3" DBH within project footprint?	N/A		yes		know
Complete this section for Indiana bat counties (Cherokee	, Clay, Grahar	n, Haywood, Jacl	kson, Macor	n, Swain,	
Rutherford: Bat Cave/Lake Lure area only)			N / A	>	
Any trees or snags 15" DBH with extending (snag) bark o	or crevices?		N/A	yes	no 7. hauna
If yes to snag/snag, now much sunligh/6J they receive at	uring the day:	/ N/A //	1-3 nours	4-6 nours	5 /+ nours
If large bollow troos or spage 25"DBH are procent in supli	taroas provi	do photos and lo	cation		
In large hollow trees of shags is DBH are present in sum	t aleas, provi	ue priotos anu io			
Presence of:	In project	footprint	In vicinty (0.5 mi)	
caves	ves	no"	ves	no	
abandoned mines	ves	no	ves	no	
If 'yes' to any of the above, provide descript	tion and locat	ion.	<i>y</i> co		
Major water source in project footprint: N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non stagnant, sr	nooth or slack	water areas?	yes	no	N/A
Structure specific questions:					
Guard rails	none	concrete	timber	metal	
Culvert material	concrete	timber	metal	plastic	
Number of barrels:	(double, trij	ole, etc.)			
Culvert height: Culvert	width:	" (Culvert leng	th:	ʹD
If culvert is buried/crushed/sedimentation, o	observed narr	owest opening h	eight:		п
Culvert type	pps	box	arch	other	
Openings protected from high winds	Eyes	no			
Crevices present:	yes	no			
Rough surfaces, imperfections, bird nests	yes	no			
Human disturbance in culvert	"high	med	low	none	
Depth of water in culvert (if applicable)	/"				
Below section completed only if bats/evidence of bats	observed:	Evidence ofba	ts using?	yes	no
Emergence count performed? (If yes, complete form)	ł	yes	no		
Evidence of bats using bird nests, if present?	. /	yes	no	hat-	
i ype of evidence	MUNNA	guano	staining	Dats	
Roost material $M_0 = M_{12}^{++}$	V V	concrete	metal	other:	
Bat species present:	o o director to to	م الم المارية الم	an inter i		wt ot - \

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

	Bat Habit	at A	ssess	ment	Form	า	
Observers: $5E$	EP		TIP or DOT	project number	: Caypli,	Culverts na Cross	roads
County:	Richland		Structure	#· %	"		
Name of the feature culv	ertiscarrying(stream)).	Structure	n. 70			
Nume of the reatine court							
%Surrounding habitat w	/in1 mi.	Urban/co	mmercial		Suburban	/residentia	1
of project footprint (app	prox)	Herb/Shr	ub/Grasslan	d A	gricultural		
o. b. c)ccc. cccb («b)		Deciduous	s/Evergreen/	Mixed Forest	0		
		Woodv W	etland/Herb	Wetland/Open	Water		
Any trees ?3" DBH within	project footprint?	,	N/A		ves		n
Complete this section fo	r Indiana bat counties	(Cherokee	, e, Clay, Graha	am, Haywood, Ja	ackson, Ma	con, Swain,	
Rutherford:BatCave/La	keLureareaonly) —–	`		, , ,	,	, ,	
Any trees or snags 15" DI	BH with exfoliating (sh	nag) bark or	crevices?		N/A	ves" " no	
, If yes to shag/snag, how	much sunlight do they	receive du	iring the day	?"W/A "	, 1-3 hours	, 4-6 hours	7+ hours
If yes to shag/snag, list s	pp oflabitat trees ?5"	dbh	0 /				
If large hollow trees or s	snags ?5"DBH are pre	sent in sun	lit areas, pro	ovide photos and	d location.		
	<u> </u>			· · ·			
Presence of:			In project	footprint	In vicinty	(0.5 mi)	
caves			yes	no	yes	no	
abandoned	mines		yes	not	yes	no	
If 'yes' to an	y of the above, provid	e descriptio	on and locati	on.			
Major water source in p	roject footprint:	N/A	river	stream/creek	› pond	lake	swamp
Suitable drinking habita	t in the form of non sta	agnant, sm	ooth or slack	water areas?	yes	no	N/A
Structure specific quest	tions:						
Guard rails			none	concrete	timber	metal	
Culvert mat	erial		concrete	timber	metal	plastic	
Number of	barrels:		(double, tri	ple <i>,</i> etc.)		,	/
Culvert hei	ght:"	Culvert v	vidth: <u>/"</u>	,	Culvert leng	;th:	100
If culvert is	buried/crushed/sedim	entation, o	bserved narr	owestopening h	eight:	4'	
Culvert typ	e		pipe	box	arch	other	
Openings p	rotected from high w	vinds	Eyes "/>	no			
Crevices pr	esent:		!"yes	no			
Rough surf	aces, imperfections, b	oird nests	yes '	no			
Human dist	urbance in culvert		high	med	low	none	
Depth of wa	ater in culvert (if applie	cable)	/ ""				
Below section complete	ed only if bats/eviden	ce of bats o	bserved:	Evidence ofba	its using?	yes	0
Emergence count perfo	ormed? (Ifyes, comple	ete form)		yes	.n		
Evidence of bats using b	irdnests, if present?	, <i>K</i>		yes	0		
Type of evidence		Ontor	$0 \mu_{\Lambda\Lambda}$	guano	staining	bats	
Roost material	NO	DUN		concrete	metal	other:	
Bat species present:	F_{ab}						
Notes (include descrip	<u>tion of bat location w</u>	<u>ithin culve</u>	rt, sediment	tation buildup, d	lra[nage inl	<u>ets inside o</u>	<u>culverts etc.)</u>

Bat Habit	tatA	ssess	ment F	orm		
Observers: $SE EP$ Date: $6 27 23$ County: $R:Ch and Rd$ Name of the feature culvert is carrying (stream)	m):	TIP or DOT Road Nam Structure # <i>UT</i> ら	project number e above culvert : EP - Z aluda R	: !/‹'- 521 VeV	CUlverts na (Yii	S Sysalli
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/co Herb/Shr Deciduou: Woody W	ommercial ub/Grasslan s/Evergreen/ /etland/Herb	d A Mixed Forest Wetland/Open	Suburban, gricultural Water	/residentia	I
Any trees >3" DBH within project footprint?		N/A		yes	,/	no
Complete this section for Indiana bat countie	es (Cherok	ee, Clay, Gra	ham, Haywood	Jackson, N	/lacon, Swa	nin,
Rutherford: Bat Cave/Lake Lure area only) Any trees or snags 15" DBH with exfojiating (If yes to shag/snag, how much sunlight do they If yes to shag/snag, list spp of habitat trees ?5" If large hollow trees or snags ?5"DBH are pre	(shag) bark y receive di dbh esent in sur	or crevices? uring the day nlit areas, pro	? N/A ovide photos an	N/A" k-3 ho.vs dlocation.	yes 4-6 hours	no 7+hours
Presence of:		In project i	footprint	In vicinty	(0.S mi)	
caves		yes	0	yes	no	
abandoned mines	le descrinti	yes on and locati	on	yes	no	
			011.			
Major water source in project footprint: Suitable drinking habitat in the form of non sta Structure specific questions:	N/A agnant, sm	river ooth or slack	stream/creek water areas?	pond ,yes	lake no	swamp N/A
Guard rails		none>	concrete	timber	metal	
Culvert material		ofic ete	timber	metal	plastic	
Number of barrels:		(double, trij	ole <i>,</i> etc.)			
Culvert height:	Culvert v	vidth:	"	Culvert leng	th:	
If culvert is buried/crushed/sedim	entation, o	bserved narr	owest opening h	eight:		
Culvert type		pipe	box	arch	other	
Openings protected from high wi	nds	У	no			
Crevices present:		""yes	no			
Rough surfaces, imperfections, bi	ird nests	yes""	no			
Human disturbancein culvert Depth of water in culvert (if appli	cable)	high ""	med	HOW	none	
Below section completed only if bats/eviden	ce of bats o	observed:	Evidence ofba	ts using?	yes	ро
Emergence count performed? (If yes, compl	ete form)		yes	no		
Evidence of bats using bird nests, if present	?		yes	'no		
Type of evidence	S ma	, !" <i>"</i>	guano	staining	bats	
Roost material [] Bat species present:	IN KAN		concrete	metal	other:	
thoees nue descio obtotion	h c e	e tat	b du d	e n ets	s de c ve t	t etc

	🍠 Bat Habit	at A	ssess	ment l	orm	Ì	
Observers:			TIP or DOT	project number	Caroli	CUIVQ£t	sionds
Date:	/		RoadNam	e above culvert:			
County:	Lexington		Structure	#: EP-140	91		
Name of the fe	ature culvert is carrying (stream)):	UT K!	nlei cree	211-		
	<i>.</i>						
% Surrounding	, habitat w/in 1 mi.	Urban/c	ommercial		Suburban	residentia	
of project foot	tprint (approx)	Herb/Shr	ub/Grassland		Agricultur	a <u>l "!</u>	
		Deciduou	JS/Evergreen/	(Mixed Forest	Nator		
Aputrooc 22"	VPH within project featurint?	woody v		wetiand/Open v	water		0
Complete this	soction for Indiana bat countion	c (Charol			yes Iztekson N	Acon Sw	0 ain
Rutherford Ba	atCave/LakeLou/earemanly)" "	, cheior	(ee, Clay, Or				ann,
Any trees or sn	ags a S" DBH with exfoliating (sh	ag) bark o	or crevices?		N/A	ves	no
If yes to shap/s	snag -how much sunlight do they	receive c	luring the day	v? N/A	1-3 hours	4-6 hours	7+ hours
If yes to shag/s	snag, list spp of habitat trees ?5" (dbh		, , <i>,</i> , .	2 0 110 010		, · · · · · · · · · · · · · · · · · · ·
If large hollow	trees or snags ?5"DBH are pres	ent in sur	nlit areas, pro	ovide photos and	dlocation.		
0			· · · · / ·				
Presence of:			In project	footprint	In vicinty (0.5 mi)	
са	aves		yes	·	yes	no	
ab	bandoned mines		yes	Ono	yes	no	
If	'yes' to any of the above, provide	e descripti	ion and locati	on.			
Maiorwaters	ource in project footprint:	N/A	river	'stream/creek	pond	lake	swamp
Suitable drink	king habitat in the form of non sta	, Ignant, sr	nooth or slac	k water areas?	ves	no	N/A
Structure spe	cific questions:	0			,		
G	uard rails		one	concrete	timber	metal	
С	ulvert material		c cre?é	timber	metal	plastic	
Ν	umber of barrels: '		(double, tri	ple <i>,</i> etc.)			
C	ulvert height: "	Culvert	width:	4' (Culvert leng	th:	
If	culvert is buried/crushed/sedime	entation, o	observed nari	owest opening h	eight:		
С	ulvert type		piped	box	arch	other	
0	penings protected from high wi	inds	(yes_)	00			
C	revlces present:		, yes	00			
R	ough surfaces, imperfections, bir	d nests	yes	no			
н	uman disturbance in culvert		high	med	low	none ./	
D	epth of water in culvert (if applic	able)	/"'				
Below section	completed only if bats/evidence	e of hats	observed	Evidence of ha	ts using?	ves	n
Emergence co	ount performed? (If ves. complet	te form)		ves	(no)	,	
Evidence of b	ats using bird nests. if present?		- Distriction	ves	no		
Type of evide	ence	I.I.T	SULAN	guano	staining	bats	
Roost materi	al N/A	4131	1111 4	concrete	metal	other:	
Bat species n	IVV	A.P.					
bai species p							

Notes (include description of bat location within culvert, sedimentation buildup, drainage inlets inside culvert, etc.)

Bat Habit	at A	ssess	sment l	Form		
$\frac{5E EP}{Date:} = \frac{6 2B 23}{2}$		TIP or DO Road Nan	Γ project number ne above culvert	∵ Ÿ?•/ :	Culvert	s 55510ad
County: Lexington		Structure	#: EC-	1302		
Name of the feature culvert is carrying (stream	ı):	UT K	inley Cr.	eek.		
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/cc Herb/Shr Deciduou Woody W	ommercial_ ub/Grasslar s/Evergreen /etland/Her	nd A /Mixed Forest bWetland/Open	Suburban, Agricultural Water	/residentia	al 40
Any trees >3" DBH within project footprint?		N/A		yes	,	no
Complete this section for Indiana bat countie Rutherford: Bat Cpve <u>/Lak</u> eVurmarea öm) Any trees or snags 15" DBH with exfoliating (If yes to shag/snag, how much sunlight do they If yes to shag/snag, list spp of habitat trees?	es (Cheroko shag) barl vreceive du 5" dbh	ee, Clay, Gra < or crevices uring the day	aham, HaywoojJ, s? y? N/A"	, Jackson, N N/A 1-3 hours	1acon, Sw yes 4-6 hour	ain, no s 7+ hours
If large hollow trees or snags ?5"DBH are pre	sent in sur	nlit areas, pr	ovide photos an	d location.		
Presence of:		In projec	tfootprint	In vicinty (0.5 mi)	
caves		yes	n"o '	yes	no	
lf 'yes' to any of the above, provid	e descripti	yes ion and loca	tion.	yes	no	
Major water source in project footprint: Suitable drinking habitat in the form of non st	N/A agnant, sm	river nooth or slac	stream/creek k water areas?	pond ves	lake no	swamp N/A
Structure specific questions:			oo norèto	timebor	motol	
Culvert material		use c ete	imber	metal	nlastic	
Number of barrels:		(double tr	inle etc.)	metar	plastic	
Culvert height: "	Culvert v	width:	<i>"</i>	Culvert leng	th:	"
If culvert is buried/crushed/sedim	entation. o	bserved nar	rowest opening h	eight:	, .	
Culvert type	- , -	pipe	box	arch	other	
Openings protected from high w	vinds	yens	no			
Crevices present:		yes	no			
Rough surfaces, imperfections, b	oird nests	eye	no			
Human disturbancein culvert		high	med	(low	none	
Depth of water in culvert (if appli	cable)	" lbs '				
Below section completed a•!v if bats/evidence	e ofbats c	bserved:	Evidence of ba	its using?	yes	n
Emergence count performed? (If yes, comple	te form)		yes	n"o		
Evidence of bats using bird nests, if present?		,	yes	ana		
Type of evidence		(),	guano	staining	bats	
Roost material	!\ !	$T \in V^{\times}$	concrete	metal	other:	

72 " £ / e *' 5 b y/ /?/ /V < > 7s /?/

Bat Ha	bitat A	ssess	sment	Form	า	
					Culver	ts
Observers:		TIP or DO	T project numbe	er: '• "	mad	rossy and
Date:		Road Nan	ne above culver	t: 7	-26	
County: Letington	1	Structure	#: Unname	d Pipe	1022	
Name of the feature culvert is carrying	(stream):	UT	T Kinley	Week		
	• • •		/	,		
% Surrounding habitat w/in 1 mi.	Urban/c	ommercial		Suburban	n/residenti	al
of project footprint (approx)	Herb/Sh	rub/Grassla	nd	Agricultura	I	
	Deciduo	us/Evergreen	/Mixed Forest	1		
	Woody V	Vetland/Her	b Wetland/Oper	n Water		
Any trees ?3" DBH within project footpr	rint?	N/A		yes		n"o
Complete this section for Indiana bat	counties (Cherok	kee, Clay, Gr	aham, Haywoo	d, Jackson, N	Macon, Sw	ain,
Rutherford: Bat Cave/Lake Lure area or	nly) —			- "		
Any trees o?s gs?5" DBH with exfDliat	irfg (shag) bark o	r crevices?		N/A	yes	no
If yes to shag/snag how much sunlight	t do they receive	duringthmo	day? N/A """-	1-3-hours	-6 hou	rs 7+ hours
If yes tD shag/snag' list spp of habitat tr	ees15" dbh	"	•			
If large hollow trees or snags ?5"DBH a	are present in su	nlit areas, pi	rovide photos a	nd location.		
	· · · · · · · · · · · · · · · · · · ·		·			1
Presence of:		In prDjec	tfootprint	In vicinty	[,] (0.5 mi)	
caves		yes		yes	np.)	
abandoned mines		yes	<gò <="" td=""><td>yes</td><td>Uno</td><td></td></gò>	yes	Uno	
If 'yes' to any of the above,	provide descript	ion and locat	tion.	-		
Major water source in project footprin	t: N/A	river	ea cr	pond	lake	swamp
Suitable drinking habitat in the form of	non stagnant, sn	nooth or slac	k water areas?	eyes	no	N/A
Structure specific questions:						
Guard rails		one	concrete	timber	metal	
Culvert material		ocretè+	timber	metal	plastic	
Number of barrels:	I.	(double, tri	ple, etc.)			
Culvert height: Ib	Culvert	width:	/< "	Culvert len	gth:	п
If culvert is buried/crushed	/sedimentation,	observed nar	rowest opening	height:		
Culvert type		pipe		arch	other	
Openings protected from	high winds	yes	no			
Crevices present:	0	yes+	no			
Rough surfaces, imperfect	ions, bird nests	yes	no			
Human disturbancein culv	vert	, high	med	ow	none	
Depth ofwater in culvert (i	fapplicable)	0				
· · · ·	,					
Below section completed only if bats	evidence of bats	observed:	Evidence of l	oats using?	ves	(no)
Emergence count performed? (If ves.	complete form)		yes	(no)		
Evidence of bats using bird nests, if pre	sent?	14	yes	no		
Type of evidence		! \ !	guano	staining	bats	
Roost material		-	concrete	metal	other:	
Bat species present:)"	1					

Notes (include description of bat location within culvert, sedimentation buildup, draimage inlets inside culvert, etc.)

18						
Bat Hak	Λ totic	22022	mont	Form		
Datitak		33033			ı Culver	ts ,
Observers: SE/EP		TIP or DOT	project number:	avoli	na (vo:	ssyoads
Date: $(a/2a)/2.3$		Road Nam	e above culvert	· Giles	PKWY	, w
County: Lexi the		Structure #	h han_{A}	od Pipe	2 1021	
Name of the feature culvert is carrying (stro	eam):		jey treek			
%Surrounding habitat w/in 1 mi.	Urban/co	mmercial		Suburban	/resídenti	al "
of project footprint (approx) Herb/Shrub/			d A	, Agricultural		-
- F - 3 (- -)	s/Evergreen/	Mixed Forest	1			
	Woody W	etland/Herb	Wetland/Open\	Nater		
Any trees >3" DBH within project footprint	?	N/A	Wettand, open (ves		rfo/
Complete this section for Indiana bat coun	ties (Cherokee.	Clav. Grahar	n. Havwood. Jac	kson. Maco	n. Swain.	
Rutherford: Bat Cave/Lake Lure area only)	, , , , , , , , , , , , , , , , , , ,	,,	, , ,	u v	, ,	
Any trees or snags 15" DB i e atn	g (shag} barkor	crevices?		N/'A	yes	во
If yes to shag/snag, how much sunlight dci	Jhey receive du	uring 2he day	/? N/A	%-3 hours -	4-6lt0urs	7+ hours
If yes to shag/snag, list spp of habitat trees	, ;?5"dbh	0 /				
If large hollow trees or snags ?5"DBH are	e present in-szf	nlit areas, pi	rovide photos a	nd location		
	-					
Presence of:		Inprojectf	ootprint	In vicinty (0.5 mi)	
caves		yes	no	yes	no!	
abandoned mines		yes	<not< td=""><td>yes</td><td>not</td><td></td></not<>	yes	not	
If 'yes' to any of the above, pr	ovide descripti	on and locat	ion.			
Major water source in project footprint:	N/A	river	stream/creek	pond	lal <e< td=""><td>swamp</td></e<>	swamp
Suitable drinking habitat in the form of no	n stagnant, smo	ooth or slack	water areas?	yes	no	N/A
Structure specific questions:						
Guard rails		none	concrete	timber	metal	
Culvert material	(concrete	timber	metal	plastic	
Number of barrels:		(double, trip	ole, etc.)			
Culvert height: "	Culvert w	vidth:		Culvert leng	th:	"
If culvert is buried/crushed/se	edimentation, o	bserved narr	owest opening h	neight:	"	
Culvert type		ре	box	arch	other	
Openings protected from his	gh winds		no			
Crevices present:		yens	no			
Rough surfaces, imperfectio	ns, bird nests	yes	no			
Human disturbancein culver	t	high	med	0	none	
Depth of water in culvert (if a	pplicable)					
Below section completed anly if bats/evi	dence of bats c	bserved:	Evidence ofba	ats using?	ves	, no
Emergence count performed? (If yes, cor	mplete form)		yes	no		-
Evidence of bats using bird hests, if prese	nt?		yes	,∙nò)		
Type of evidence	Second Second	J	guano	staining	bats	
Roost material	1111. 104	10 li	concrete	metal	other:	
Bat species present:	トモルコンウッ					
Notes (include description of bat location	on within culve	<u>rt, sedime</u> nt	<u>atlon buildup, c</u>	<u>Irainage i</u> nle	<u>ets insid</u> e	<u>culvert, etc.</u>)

Bat Habit	tat A	ssess	sment l	orm		
Observers: <u>SELEP</u> Date: <u>GD22</u> County: <u>Sevingtor</u>		TIP or DO Road Nam Structure	「project number le above culvert: #: <u>/<i>+ & r b i50 n</i></u>	- Cayoli N Ped Cui	Culvert na (v. A Iberts	s <u>1</u>
Name of the feature culvert is carrying (strea	m):					
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/co Herb/Shi Deciduou Woody W	ommercial rub/Grasslar Is/Evergreen Vetland/Herb	nd A /Mixed Forest o Wetland/Open N	Suburban/ gricultural Vater	residentia !!	al '/
Any trees >3" DBH within project footprint?	(0)	N/A		yes		(nO
Complete this section for Indiana bat countin Rutherford: Bat Cave/Lake Lure area only) Any trees or snags ¿5" DBH with exfoliating (If yes to shag/snag, how much sunlight do the If yes to shag/snag, list spp of habitat trees ?5' If large hollow trees or snags ?5"DBH are pro	es (Cherok shag) bark y receive d döh esent in su	ce, Clay, Gr or crevices luring the da Inlit areas, p	anam, науwооd, ? y? N/A rovide photos ar	N/A 1-3 hours " nd location.	yes 4-6 hours "	ain, no 7+ hours
Presence of:		In project	footprint	lu vicintv	(0.5 mi)	
caves		ves		ves	(no)	
abandoned mines		ves	Ø	ves	ho	
If 'yes' to any of the above, provid	le descripti	, ion and locat	ion.	,		
Major water source in project footprint: Suitable drinking habitat in the form of non st Structure specific questions:	N/A″ agnant, sn	river nooth ar slac	stream/creek k water areas?	pond yes	lake no	swamp N/A
Guard rails		,none"!	concrete	timber	metal	
Culvert material		concrète	timber	metal	plastic	
Number of barrels:		(double, tr	iple, etc.)			r-n/
Culvert height: /	Culvert	width:	" (Culvert leng	th:	50
If culvert is buried/crushed/sedim	ientation, o	observed nai	rowestopening h	eight:	/	
Culvert type		pipe	XDOX	arcn	other	
Crewises protected from fight wi	nus	yes	20			
Rough surfaces imperfections hi	rd nests	e ر'وs" ؟	no			
Human disturbancein culvert	i u nests	i highs	med	IOW	none	
Depth of water in culvert (if applic	abl e)	<i>»</i> ««				
Below section completed only if bats/eviden	ce of bats	observed:	Evidence ofba	ts using?	yes	,no
Evidence of hats using hird nests if present?			Ves	mo		
Type of evidence			guano	staining	hats	
Roost material	•'		concrète	metal	other:	
Bat species present:						
Notes (include description of bat location w	<u>vithin c</u> ulve	ert, sedimen	<u>tation buil</u> dup, d	rainage inle	<u>ets ins</u> ide	<u>culvert, etc.)</u>

	🖉 Bat Habi [.]	tat As	ssess	ment	Form		
	A CONTRACT OF A CONTRACT.					Bridges	
Observers:	î"		TIP or DOT	proiect number	: Carol,	na VUS	SKoaa
Date:	6/26/23		Bridge Roa	d (Name of facil	ity carried)	A	
County:	Richland		Bridge Nur	mber: 463	88		
Crossing (Na	me of the feature intersected):	Broad	Rive	Y			
0.	,	······					
% Surroundir	ng habitat w/in 1 mi.	Urban/Con	nmercial	!'	Suburban/R	Residential	
of project fo	otprint (approx)	Herb/Shru	b/Grasslan	id /T	Agricultural		
		Deciduous/	/Evergreen/	Mixed Forest		/	
		Woody We	tland/Herb	Wetland/Open	Nater		
Any trees >3'	" DBH within project footprint?	N/A		yes		0	
Complete thi	is section for Indiana bat counties	(Avery: Cran	berry Mine	area only, Chero	okee, Clay, Gi	raham, Hayv	wood,
Jackson, Mad	con, Rutherford: Bat Cave/Lake Lt	łFe area only,	, Swain)				
Any shaggy t	rees orsnags >5" DBH?	N/A		yes		no	
If yes to shag	/snag, how much sunlight do the	ey receive dur	ring the day	/? N/A	1-3 hours	4-6 hours	7+ haurs
If yes to shag	/snag, list species óf habitat trees	s>5" dbh					
If snags >5"[DBH are present in sunlit areas, I	provide phot	os and IDC	dtíon.			
If large hollo	ow trees are present, provide ph	otos and loc	ation.				
Presence of:	:		In project	footprint	In vicinty (0	.5 mi)	
	Caves		yes	0	yes		
	Abandoned mines		yes	ÿo7	yes		
I	If 'yes' to any of the above, provi	de photos, de	escription,	and location.			
Major water	r source in project footprint	N/A	ive	stream/creek	pond	lake	SWd M}g
Suitable drin	nking habitat in the form of non-st	tagnant, smo	oth or slacl	kwater?	yes"	no	N/A
Structure sp	pecific questions:						
	Artificial lighting	unknown	yes i	mo			
	Guard rails		ete>	• timber	metal		
	Deck type	eţ	m2:.		open grid		
	Beam type	none	concrete	steel	timber		
	End/back wall type	concretes	timber	masonry			
	Creosote evidence				yes		(no)
	Suitable roosting crevices preser	nt (/ -1/" wid	de)		ves		no
	Deck drains				(yes		no
					"Nervedia		
Max height	of bridge deck above ground or w	vater (ft):	ń/J/ <i>Í</i>	ĨJ	\frown		
Bridge align	ment	N/S	E/W	NW/SE	(NE/SW)		
Human dist	urbance under bridge	high	med		none		
						\sim	
Evidence of	bats using bridge? (photos need	ded)			yes	no	
Below section	on completed anly if bats/eviden	ice of bats ob	served:			~	
Emergence	count performed? (If yes, compl	ete form nex	t page)		yes	n	
Evidence of	bats using bird nests, if present	?			yes	no	
Type of Evid	lence (circle all that apply)	\1		guano	staining	bats obse	erved
Roost Type	٨ [UPRI	01		crevice	open are	а
Raost Mater	rial 🛛	A. A. Pal	$\mathcal{Y}_{\mathcal{N}}$		metal	concrete	
Bat species	present (list all species):						

Bat Habit	tat As	ssess	ment	Form		
TTER					Bridges	
Observers: <u>SEICF</u>	·····	TIP or DOT	project number	: +' !/ ** 	.'	io, art
Date: 07.26725	8	Bridge Roa	d (Name of facil	ity arrie		• f
County: R. CN IANA	T	Bridge Nui フィ	nber: <u>40</u>	26		
Crossing (Name of the feature intersected):	4-4	20				
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Cor Herb/Shru Deciduous, Woody We	mmercial b/Grasslan /Evergreen, etland/Herb	d /Mixed Forest Wetland/Open	Suburban/I Agricultura 6 Water *-	Residential I T	
Any trees >3" DBH within project footprint?	N/A		yes		inot	
Complete this section for Indiana bat counties	(Avery: Cran	berry Mine	area only, Cher	okee, Clay, G	raham, Hay	wood,
Jackson, Macon, Rutherford: Bat Cave/Lake Lu	re area only,	, Swain)				
Any shaggy trees or snags >5" DBH?	N/A		yes		no	
If yes to shag/snag, how much sunlight do the	y receive du	ring the day	/? N/A	1-3hours	4-6 hours	s 7+ hours
If yes to shag/snag, list species af habitat trees	>5" dbh					
If snags >5"DBH are present in sunlit areas, p	provide pho	tos and loc	ation.			
If large hollow trees are present, provide ph	otos and loc	ation.				
Presence of:		In project	footprint	In vicinty (0).5 mi)	
Caves		yes	no"	yes	no	
Abandoned mines		yes	no>	yes	no	
If 'yes' to any of the above, provid	de photos, d	escription,	and location.			
Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamy
Suitable drinking habitat in the form of non-st	agnant, smo	oth or slacl	water?	yes	no	!N/A
Structure specific questions:						
Artificial lighting	unknown	yes				
Guard rails	none	concrete	timber	jet l		
Deck type	concrete	") metal	timber	open grid		
Beam type	none.	And	steel	timber		
End/back wall type	,concrete	timber mas	sonry			
Creosote evidence				yes		no
Suitable roosting crevices presen	t(?z-1X" wid	de)		yes		no
Deck drains				yes	Q	/
				-	7	6
Max height of bridge deck above ground or wa	ater (ft):					
Bridgealignment	N/S	E/W	ANW/SE	NE/SW		
Human disturbance under bridge	thighs	med	low	none		
Evidence of bats using bridge? (photos need Below section completed only if bats/eviden	led) ce of bats ok	oserved:		ves	no	
Emergence count performed? (If yes, comple	ete form nex	t page)		yes	(
Evidence of bats using bird nests, if present	?			yes	not	
T _{vp} e of Evidence (circle all that apply)	()	!	guano	staining	bats obs	erved
Roost Type	N MIN	An		crevice	open are	ea
Roost Material	V	KINV		metal	concrete	2
Bat species present (list all species):						

Bat Hab	itat As	ssess	ment	Form	Bridges	i ,
Observers: SELEP		TIP or DO	DT project nur	nber: ĆT/	na Cros.	Skoads
Date: 6/26/23		Bridge Roa	d (Name of facili	ty carried)		
County: Ridian		Bridge Nu	mber:			
Crossing (Name of the feature intersected):	I.	20				
% Surrounding habitat w/in 1 mi.	Urban/Co	mmercial		Suburban/F	Residential	
of project footprint (approx)	Herb/Shru	ub/GrassIan	d '	Agricultural	I	
	Deciduous	s/Evergreen/	Mixed Forest	-		
	Woody W	etland/Herb	Wetland/Open	Water		
Any trees >3" DBH within project footprint	, ? N/A	,	yes		0	
Complete this section for Indiana bat count	ies (Averv: Cra	nberrv Mine	area only. Chero	okee. Clav Gr	nham. Hav	wood.
Jackson, Macan, Rutherford: Bat Cave/Lake	Lure area only	, Swain)	,,	, , - ,	,	- /
Any shaggy trees or snagsv5"DBH?.	' N/A	. /	ves		no	
If yes to shag/snag, how much sunlight do t	thev receive du	uring the day	, / N/A	1-3 hours	4-6 hour:	s 7+ hours
If yes to shag/shag, list speciemf habitztlre	es"fi5" dhh			_ 00010		
If snags >5"DBH are present in sunlit areas	5. provide nhot	os and locat	ion.			
If large hollow trees are present, provide	photos and loc	cation.				
Presence of:	p	In project	footprint	In vicinty (0).5 mi)	
Caves		yes	n	yes	no	
Abandoned mines		ves		yes	no	
If 'yes' to any of the above, pro	vide photos, d	escription, a	nd location.			
Major water source in project footprint	1 1	river	stream/creek	pond	take	swamp
Suitable drinking habitat in the farm of no	on-stagnant. s	mooth or sla	ack water?	ves	no	/N/A "¿
Structure specific questions:	0 /			,		
Artificial lighting	unknown	ves	n"o "			
Guard rails	none	et	timber	metal		
Decktype	oncrete	?metal	timber	open grid		
Beam type	none	ćoncrete	steel	timber		
End/back wall type	ncrete	timher	masonry			
Creosote evidence	herete	timber	masoniy	Ves		۰h
Suitable roosting crevices pre	asont (? - 1X" v	vide)		yes		no
Deck drains		viacj		Ves		no
				,		
Max height of bridge deck above ground or	waterEft):	101				
Bridge alignment	N/S	E/W	NW/SF	NE/SW/		
Human disturbance under bridge	high '	med	low	none		
		meu		none		
Evidence of bats using bridge? (photos no Below section completed only if bats/evid	eeded) Jence of bats o	bserved:		yes	no	
Emergence count performed? (If ves. con	nplete form ne	xtpage)		ves	n	
Evidence of bats using bird nests, if prese	ent?		/	ves	0	
Type of Evidence (circle all that apply)		Last 10	guano	staining	bats obs	served
	0 0	SYUN	0	crevice	Onen ar	ea
KOOST TYPE	NO WOU			metal	concret	24
Rat species present (list all species):	$i v \sim$					-

4	🖉 Bat Habit	at Δo		ment	Form		
				ment	1 01111	Bridges	
Observers:	SE/EP			T project numbe	r·	Diluges	
Date:	6/1/0/23		Bridge Ro	ad (Name of faci	ility carried)	-W 4G	
County:	Richland		Bridge Nu	mber:	/		
Crossing (Name	of the feature intersected):	and the official and a second second	11 / 11 / 11		,		
5.	,						
% Surrounding h	abitat w/in 1 mi.	Urban/Co	mmercial		Suburban/F	Residential	"
of project footp	rint (approx)	Herb/Shru	ub/Grassla	nd /	Agricultura	+"	
		Deciduous	/Evergreen	/Mixed Forest			
		WoodyW	etland/Hei	b Wetland/Ope	n Water 🦷	<i>''</i>	
Any trees >3" D	BH within project footprint?	N/A		yes		not	
Complete this so	ection for Indiana bat count e	Ave : C an	ibe Mi	ine area on Ch	ierokee, Clay,	Graham, Ha	iywood,
Jackson, Macon,		areziotiFyW	(wain)				
If yes to shag/sn	25 OF STIARS >5 DBM? ag how uch-sunlight"ün the	IN/A ov receive du	uring the d	yes avs N/A	1-3 hour?	10 4-6 hours	7+ haurs
lfvestoshag/sh	ag list species of habitat trees	>5" dhh			I S HOUT;		,
If snags >5"DRH	are pres@en su areas n	rovide nhot	tos and loc	ation.			
If large hollow t	rees are present, provide pho	otos and loc	cation.				
Presence of:			In projec	t footprint	In vicinty (0	.5 mi)	
Cav	es		yes	/?fb	yes	ίΤq	
Aba	andoned mines		yes	And	yes	not	
lf 'y	es' to any of the above, provic	le photos, d	lescription	, and location.			
Major water sou	urce in project footprint	N/AQ	river	stream/creek	pond	lake	swamp
Suitable drinkin	ng habitat in the form of non-	stagnant, si	mooth or s	lack water?	ves	no	N/A
Structure speci	fic questions:						
Arti	ificial lighting	unknown	yes	the base			
Gua	ard rails	none	ocrete	timber	metal		
Dec	um type		metai	limber	timbor		
Enc	l/hack wall type		Itimber	masonry	uniber		
Cre	eosote evidence	Concrete	Jumber	musomy	ves		Uno
Sui	table roosting crevices preser	nt (? - 1X" w	vide)		.ves		no
Deo	ck drains	- (-	/		des		no
Max height of b	ridge deck above ground or w	ater (ft):	"				
Bridge alignme	nt	N/S	E/W	NW/SQ	NE/5W		
Human disturb	ance under bridge	h	med	low	none		
						\bigcirc	
Evidence of bat	ts using bridge? (photos need	led)			yes	(no)	
Below section of	completed anly it bats/evidend	ce of bats of	userved:		1/02	knob	
Emergence cou	the using bird posts if procent	ete iorm nex	xcpage)		yes	KHOD	
Type of Fyiden	re (circle all that apply)	1		guano	yes staining	u hts ohse	rved
Roost Type	το τοι στο απτησταρμιγ			Suano	crevice	Onen are	a
Roost Material					metal	concrete	~
Bat species pre	sent (list all species).				·		

Bat Habi	tat As	ssess	ment	Form	1	
Observers: SELEP			nroject number	. Cavoliv	Bridges	sroad
Date: 6/26/23		Bridge Roa	d (Name af facili	ity carried)	ROCK	and RA
County: $\int \mathcal{P}_{1}(nh) dn$		Bridge Nu	mber: 4/0/	/	1.0 1010	<u></u>
Crossing (Name of the feature intersected):		Dridge rul	110Cl / U /	/		
	·····			•••••		
% Surrounding habitat w/in 1 mi.	Urban/Cor	nmercia)		Suburban/I	Residential	"
of project footprint (approx)	Herb/Shru	b/Grasslan	d	Agricultura	I	
······································	Deciduous	/Evergreen/	Mixed Forest	!		
	Woody We	etland/Herb	Wetland/Open	Water		
Any trees >3" DBH within project footprint?	N/A		yes			
Complete this section for Indiana bat countie	es (Avery: Cra	nberry Min	e area only, Che	rokee, Clay,	Graham, H	aywood,
Jackson, Macon, Rutherford: Bat Caye/Lake L	ureareac>nl	y, Swéifi§ ""	un			
Any shaggy trees or snags >5" DBH?	' N/A		yes		no	
If yes to shag/snag, how mu sunlight do th	ey receive du	ring the day	/? N/A ""	3 hours	4-6 hours	s 7+ hours
If yes to shag/snag, list species of habitat tree	es>5" dbh					
If snags >5"DBH are present in sunlit areas,	provide phot	tos and loca	ation.			
If large hollow trees are present, provide pl	notos and loc	ation.				
Presence of:		In project	footprint	In vicinty (C).5 mi)	
Caves		yes		yes	ono	
Abandoned mines		yes	< non	yes	<no< td=""><td></td></no<>	
If 'yes' to any of the above, prov	ide photos, d	escription,	and location.			
Major water source in project footprint	N/A	river	treanj/creek	pond	lake	swamp
Suitable drinking habitat in the farm of non-s	tagnant, smo	oth or slack	water?	yes	no	N/A
Structure specific questions:						
Artificial lighting	unknown	yes				
Guard rails	none	owmoe	timber	metal		
Deck type	¿concretes	s metal	timber	opengrid		
Beam type	none	concrete	steel	timber		
End/back wall type	concrete	timber	masonry			
Creosote evidence				yes		no
Suitable roosting crevices prese	nt(fix-1/" wie	de)		ye+		no
Deck drains				yes		(no)
Max height of bridge deck above ground or	water (ft):	17				
Bridge alignment	N/S		NW/SE	NE/SW		
Human disturbance under bridge	high	med	'low	none		
_					and the second	
Evidence of bats using bridge? (photos nee	eded)			yes	no	
Below section completed only if bats/evide	nce of bats ob	oserved:		((
Emergence count performed? (If yes, comp	lete form nex	(t page)		yes	no!	
Evidence of bats using bird nests, if present	t?	'n		yes	note	
Type of Evidence (circle all that apply)	, 	· i	guano	staining	bats obs	erved
Roost Type	No Mr.	2		crevice	open are	ea
Roost Material	NA G			metal	concrete	2
Bat species present (list all species):						

						Bridges	
)bservers:	SELEP		TIP or DOT	project numbei	: <u>'/'</u>	na Crus	Sroad
Date:	6/27/23		Bridge Road	d (Name of facili	ty carried)	MC AJ	: 17r
ounty:	Lexington		Bridge Nun	nber: <u>85</u>			
rossing (Na	me of the feature intersected):	Se	enn Br	h			
Surroundi	ng hahitat w/in 1 mi	Urban/Cor	nmercial		Suburban/F	Residential	
f project fo	ootprint (approx)	Herh/Shru	h/Grassland	4 /•	Agricultural		
	· · · · · · · · · · · · · · · · · · ·	Deciduous/	Evergreen/I	/ Mixed Forest	/		
		Woodv We	tland/Herb	Wetland/Open	, Nater		
ny trees >3	"DBH within project footprint?	N/A		ves		mo	
, omplete th	his section for Indiana bat countie	es (Avery: Cra	nberry Mine	e area only, Che	rokee, Clay,	Graham, Ha	ywood,
ackson, Ma	con, Rutherford: Bat Cave/Lake	Lure area only	, Swain)		-		
ny shaggy t	trees or snags >5" DBH?	N/A		yes "		no	
yes to shage	g/snag, how much sunlight do the	ey receive dur	ing the day?	N/A	1-3 hours	4-6 hours	7+hours
yes to sha	g/snag, list species of habitat trea	as >5" db1	<i>n u</i>	" """"			
snags >5"	DBH are present in sunlit areas,	provide phot	os and loca	tion.			
f large hollo	ow trees are present, provide pho	tos anb locati	on.				
resence of	:		In project f	ootprint	In vicinty (0	.5 mi)	
	Caves		yes (yes	<no></no>	
	Abandoned mines		yes	>no+	yes	no°	
	If 'yes' to any of the above, provi	de photos, de	scription, a	nd location.			
∕lajor wate	r source in project footprint	N/A	river	stream/creek	pond	lake	swamp
uitable dri	nking habitat in the farm of non-s	tagnant, smo	oth or slack	water?	yes	no	N/A
tructure s	pecific questions:						
	Artificial lighting	unknown	yes	no '			
	GUardrail5	none	concrete'	timber	metal		
	Deck type	concrete	metal	timber	open grid		
	Beam type	none	concrete'	steel	timber		
	End/back wall type	concrete	timber	masonry			
	Creosote evidence				yes		'no
	Suitable roosting crevices prese	ent (1x - 1 " w	/ide)		yes		no
	Deck drains				yes		no
Max height	of bridge deck above ground or v	water (ft):	af				
Bridge aligr	iment	N/S	E/W	NW/SE	E SWS		
Human dist	urbance under bridge	high	med flow	/S	none		
Evidonco o	f hats using bridge? (photos pos	ydod)					
Relow secti	ion completed only if hats /evide	ueu) nce of hats oh	sorvod		yes		
Emergence	count performed? (If ves comp	lete form nev	t nagel		Ves	no	
Fvidence o	f hats using hird nests if nresen	+?	chapel		Ves	no	
Type of Fvir	tence (circle all that apply)	•• 9 X1	(<u> </u> /''	10	staining	hats once	erved
Roost Type		. In this			crevice	open are	a
Roost Mate	- erial	NV			metal	concrete	
	anagent (ligt all angelige):						

Bat Habit	at A	ssess	ment	Form			
Observers: $5E EP$ Date: $6/27/23$ County: $R:Uhland/Leyingt$ Crossing(Name of the feature intersected):	<u></u> <u>or</u> 5a	TIP or DOT Bridge Roa Bridge Nur И И и	project numbe d (Name offacili nber: KVEY	r: <u>Cavoli (</u> tycarried)	Bridges NA (Yass T-26	roads	
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Co Herb/Shro Deciduous Woody W	ommercial ub/Grasslan s/Evergreen/ etland/Herb	d /T Mixed Forest Wetland/Open	Suburban/Residential Agricultural / Water			
Any trees >3" DBH within project footprint?	N/A		yes ono				
Complete this section for Indiana bat counties	(Avery: Cra	anberry Min	e area only, Che	rokee, Clay,	Graham, Ha	iywood,	
Jackson, Macon, Rutherford: Bat Cave/LakmL	rear rf	ʻl aWn/					
Any shaggy trees nags 5" DBH?	N/A		yes		no		
If yesto shag/snag, w u hsgtjJJghtAe-they	receive do	oripgt:he day	/? N/A	1-3 hours	4-6 hours	7+ hours	
If yes to shag/snag, list species of habitat trees	as" dbh-						
If snags >5"DBH are present in sunlit areas, p	rovide pho	otos and loca	ation.				
If large hollow trees are present, provide pho	tos and lo	cation.	_				
Presence of:		In project	footprint	In vicinty (0).5 mi)		
Caves		yes		yes	n		
Abandoned mines		yes		yes			
If 'yes' to any of the above, provid	e photos, o	description,	and location.				
Major water source in project footprint	N/A	ixv r*	stream/creel«	pond	lake	swamp	
Suitable drinking habitat in the form of non-sta	ignant, sm	ooth ar slack	water?	yes "	no	N/A	
Structure specific questions:							
	unknown	yes	timebox	motal			
Guard rails	none	gon.crete	timber				
Deck type	concrete	metal	timper	open grid			
End/backwall type	concrete	(timbor mo	steer	umber			
End/back wall type	.concrete	/ umber mas	sonry	Ves			
Suitable roosting crevices presen	+ / / ₋ 1 /" w	(ida)		Ves		no	
Dock drains	ι(/- Ι / W	nuej		Ves		no	
Deck uranis				A France		no	
Max height of bridge deck above ground or wa	ater(ft)·	1/+ '11/)/é				
Bridge alignment	N/S	., · · · · , F/\/	NW/SE	NE/SW			
Human disturbance under bridge	high	med	low	none			
	0		-				
Evidence of bats using bridge? (photos need Below section completed only if bats/evidenc	ed) e of bats o	bserved:		yes	no		
Emergence count performed? (If ves. comple	te form ne	xt page)	1	yes			
Evidence of bats using bird nests, if present?	-	,	1	yes	0		
Type of Evidence (circle all that ap Iv)	0	1 ALL	guano	staining	bats obse	erved	
Roost Type	N VIL	ις μου ν	~	crevice	open are	a	
Roost Material \wedge	0 1100			metal	concrete		
Pat spacios prosont (list all spacios):							

Bat species present (list all species): _____

Bat Habi	tat A	ssess	ment	Form	ו	
					Bridges	
Observers: <u>SELEP</u>		TIP or DOT	r projectnumber	: Cavol	ipa iva	USS YOAA
Date: <u>6/27/23</u>		Bridge Roa	d (Name of facil	ity carried)	I-26	
County: <u>Richland</u>		Bridge Nur	mber: <u>79</u>	36		
Crossing (Name of the feature intersected): _	Ari	NOW WOOD	d Dr			
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Co Herb/Shr Deciduou Woody W	ommercial ub/Grasslan s/Evergreen/ /etland/Herb	d / 'Mixed Forest Wetland/Open \	Suburban/l Agricultura Water	Residential I /	
Any trees >3" DBH within project foDtprint?	N/A		yes		, no	
Complete this section for Indiana bat countie	es (Avery. Cr	anberry Min	e area only, Che	rokee, Clay	fiéham, H	aywood,
Jackson, Macon,-Rutherford: Bat Cave/Lake Lu	ure area onl	y, Swain)				
Any shaggy trees or snags >5" DBH?	N/A		yes		no	
If yes to shag/snag, hgy/ much sunligKVdo the	ey receive d	uring the day	/? N/A	1-3 hours	4-6 hours	7+ hours
If yes to shag/snag, list species of habitat tree	s >5" dbh					
If snags >5"DBH are present in sunlit areas, p	rovide pho	tos and locat	ion.			
If large hollow trees are present, provide ph	otos and lo	cation.				
Presence of:		In project	footprint	In vicinty (C).5 mi)	
Caves		ves		ves	Ono ,	
Abandoned mines		ves	prro	Ves	mó	
If 'yes' to any of the above provid	de nhotos i	lescription a	nd location	100	me	
Major water source in project footprint	με pποτου, ε /Δ	river	stream/creek	nond	take	swamn
Suitable drinking babitat in the form of non-s	tagnant sm	noth or slack	water?	ves	no	N/A
Structure specific questions:	tagnant, sh		(water:	yes	110	
Artificial lighting	unknow		no			
Guard rails	nono	i yes d	timbor	motal		
Dock type	fiorie	"motol	timber	opop grid		
Deck type	concrete	e metal	umber	open griu		
Beam type	none	corjcrete	e	timber		
End/back wall type	concrete	timber	masonry			
Creosote evidence				yes		no
Suitable roosting crevices prese	ent (? - 1 "w	ride)		yes		na
Deck drains				,yes		no
Max height of bridge decl< above ground or v	vater (ft):	"				
Bridge alignment	/SQ	E/W	NW/SE	NE/SW		
Human disturbance under bridge	high "/	med	low	none		
Evidence of bats using bridge? (photos nee	ded)			yes	hO*	
Below section completed only if bats/evide	nce of bats	observed:				
Emergence count performed? (If ves. complete	eteformne	xtpage)		ves	no!	
Evidence of bats using hird nests if present	?			ves		
Type of Evidence (circle all that apply)	••	,	ອາເລກດ	staining	hats ohse	erved
Roost Type	N. A.	9	Suuno	crevice	Onen are	a
Roost Material) (那里			motal	concrete	4
	U.			metai	concrete	
Bat species present (list all species):						

9	🖉 🖉 Bat Hab	itat A	Asse	ssmer	nt Foi	rm
	Datriab	nat /		001101		Bridges
Observers:	SELEP		TIP or DO	T projectnumber	: Cavol	NG NUSSYSAde
Date:	6/27/ 23		Bridge Ro	ad (Nameof facil	ity carried)	Colonial Life RA
County:	Richland		Bridge Nu	mber:	<u>-</u>	
Crossing (N	lame of the feature intersected):	 I-1	26			
% Surroun	ding habitat w/in 1 mi.	Urban/Cor	mmercial		Suburban/F	Residential
of project	footprint (approx)	Herb/Shru	b/Grasslar	nd	Agricultura	I
		Deciduous	/Evergreen	/Mixed Forest	1	
Woody Wetland/Herb V				o Wetland/Open	Water	
Any trees >	>3" DBH within project footprint?	N/A		yes		00
Complete	this section for Indiana bat countie	sAvery: Cvac	obgrcy Min	e area only, Chei	rokee, Clay,	Graham, Haywood,
Jackson, N	lacqn Rutherford: Bat Cave/Lake L	ure area anl	y, Swain)	-		
Any shagg	y trees or snags >5' DBH?	N/A		yes		no
If yes to sh	lag/snag, howuh sunlightclo they	receive dur	ing the day	?. N/A	1-3 hours	4-6 hours 7+ hours
If yes to sha	ag/snag, list species af habitat trees	s>5" dbh				
If snags >5	"DBH are present in sunlit areas,	provide pho	tos and loc	ation.		
If large no	llow trees are present, provide ph	otos and loc	ation.	faataviat	la visiata (0	
Presence			in project	rootprint	In vicinty (U	J.S mi)
	Caves		yes	go	yes	,no
	Abandoned mines	da nhatar d	yes	rio and location	yes	go /
Majorwat	If yes to any of the above, provide	ae photos, u ۸/	rivor	and location.	nond	letre errere
Suitable d	rinking babitat in the farm of non-st	A/ Alsonant smo	nvei othorslac	suedily creek	vos	ake swamp
Structure	specific questions:	agnant, sinc		Rwater:	yes	no nya
Structure	Artificial lighting	unknown	ves	n		
	Guard rails	none	yes	timber	metal	
	Deck type	concrete	metal	timber	onen grid	
	Beam type	none	concrete	'steel	timber	
	End/back wall type	concrete	timber	masonry		
	Creosote evidence			· · · · /	ves	mo
	Suitable roosting crevices prese	nt (/ - 1 "wid	de)	(Ves	no
	Deck drains			,	yes	no
Maxheigh	nt of bridge deck above ground or w	ater (ft):				
Bridge alig	gnment	N/S	E/W	NW/SE	NE/SW	
Human di	5tUFbance under bridge	high	med	low	none	
Evidence	of bats using bridge? (photos need	ded)			yes	no
Below sec	ction completed only if bats/eviden	ce of bats ob	oserved:			~
Emergen	ce count performed? (If yes, compl	ete form nex	(tpage)		yes	r\ot
Evidence	of bats using bird nests, if present	?			yes	ri"O¿
Type of Ev	vidence (circle all that apply)	1 10	, ,	guano	staining	bats observed
Roost Typ	e	n mar	2		crevice	open area
Roost Ma	terial	11			metal	concrete
ват specie	es present (list all species):					

Bat Habit	at As	sses	sment	Form		
Observers: $SE EP$ Date: $6/27/23$, County: $RiCfm Avt\% / Leving$ Crossing (Name of the feature intersected):	tor	TIP or DO Bridge Ro Bridge Nu	T project numbe ad (Name of faci mber:	r: <u><i>Cavoli)</i> lity carried)</u> 7934-	Bridges <u>NA (Yoss</u> I – 126	<u>road</u> :
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Cor Herb/Shru Deciduous, Woody We	mmercial b/Grasslar /Evergreen etland/Herl	nd / I/Mixed Forest b Wetland/Open	Suburban/R Agricultural Water	esidential	
Any trees >3" DBH within project footprint?	N/A		ves	k	nob	
Complete this section for Indiana bat counties	(Avery: Cra	nberry Mi	, ne area only, Che	rokee, Clay, G	Graham, Hay	/wood,
Jackson, Macon, Rutherford Bat Cave/Lake Lu	, ure area on	, lv, Swain)	,,	, ,,	, ,	,
Any shaggy trees or snags >5" DBH?	N/A	<i>,, ,</i>	ves		no	
If yes to shag/snag, how much sunlight dD-they	/ receive du	ring the da	, iv? N/A	1-3 hours	4-6 hours 7	+ hours
If yes to shag/snag, list species of habitat trees	>5" dbh		,,.	2 0 110010		nours
If snags >5"DBH are present in sunlit areas. p	rovide phot	tos and lo	cation.			
If large hollow trees are present, provide pho	tos and loc	ration				
Presence of		In project	t footprint	In vicinty (0	5 mi)	
Caves		ves	n		n	
Abandoned mines		Ves		yes ves		
If 'yes' to any of the above provid	a nhatas d	escription	andlocation	yes		
Major water source in project featurint	е рнотоз, u	rivor	, and location.	nond	laka	awama n
Suitable drinking babitat in the form of non	N/A	nooth or c	Stream/creek	ponu	IdKe	swamp M/A
Structure specific questions:	stagnant, si		Mack water:	yes	110	N/A
Artificial lighting	unknown	Voc				
		yes	time have			
Guard Fulls)Sel	timber	metal		
Deck type	concrete	metal offénerete	umber	open grid		
Bearn type	none	c oncrete	steel	timber		
End/back wall type	concrete	timber	masonry			
Creosote evidence				yes		n
Suitable roosting crevices preser	nt (fix - 1 ″w	vide)		ves		no
Deck drains				ves		no
		٨	1.1			
Max height of bridge deck above ground or v	wate(ift):	Approx	100			
Bridge alignment	N/S	E/W	(NW/SE	NE/SW		
Human disturbance under bridge	high	med	low"/	none		
Evidence of bats using bridge? (photos needed Below section completed only if bats/evidence	l) e of bats obs	served:		yes	no	
Emergence count performed? (If yes, comple	te form nex	tpage)		yes		
Evidence of bats using bird nests, if present?)			yes	0	
Type of Evidence (circle all that apply)	()	1.0 V	' guano	staining	bats obser	rved
Roost Type	a White	Y00		crevice	open area	l
Roost Material	0 M	,		metal	concrete	
Bat species present (list all species).						

	Bat Habit	at A	ssess	ment	Form			
						Bridges	1	
Observers:	SELEP		TIP or DOT	project number	avoli	nalvo	SSYDADC	
Date:	6/27/23		Bridge Roa	ad (Name of fac	ility carried)	T-26	<u></u>	
County:	Richland		Bridge Nur	mber: "01	-, <u>.</u>			
Crossing (N	lame af the feature intersected):	C	SY		······			
% Surroun	ding habitat w/in 1 mi.	Urban/Coi	mmercial		Suburban/Residential			
of project	footprint (approx)	Herb/Shru	ıb/Grasslan	d /	Agricultura	I		
		Deciduous	/Evergreen/	Mixed Forest				
		Woody We	etland/Herb	Wetland/Open	Water			
Any trees >	•3" DBH within project footprint?	N/A		yes		not		
Complete t	his section for Indiana bat counties	(Avery: Crar	berry Mine	area only, Chero	okee, ClayGra	aham, Hayw	vood,	
Jackson, M	acon, Rutherford: Bat Cave/Lake Lu	ire area only	y, Swain)	"	"			
Any shaggy	y trees or snags >5" DBH?	N/A		yes		no		
!fyesto sh	ag/snag, how much sunlight dother	receive du	Nngthe day	? N/A	1-3 hours	4-6hour	s 7+hours	
If yes to sha	ag/snag, list species of habitat trees	>5" dbh						
It snags >5	"DBH are present in sunlit areas, p	provide pho	tos and loca	ation.				
If large ho	llow trees are present, provide pho	otos and loc	cation.	<u> </u>				
Presence	of:		In project	footprint	In vicinty (0	.5 mi)		
	Caves		yes	no	yes	no		
	Abandoned mines		yes	no	yes	Suot		
Majorwat	If yes to any of the above, provid	ne priotos, d	river	and location.	nond	laka		
	er source in project rootprint	A A		Stream/Creek	ponu	аке	swamp	
Structure	especiflcquesflons:	agnant, sinc		waterr	yes	no	INA	
	Artificial lighting	unknown	yes	n				
	Guard rails	none	§orfcreté	timber	metal			
	Deck type	concrete	metal	timber	open grid			
	Beam type	none	concrete	steel	timber			
	End/back wall type	concrete	timber	masonry				
	Creosote evidence	+ / 6 4 //	.: .!)		yes		no	
	Suitable roosting crevices preser	1t (TIX - 1 W	/ide)		yes		no	
	Deck urains				yes		no	
Maxheigh	t of bridge deck above ground or wa	ater(ft)						
Bridge alig	anment	N/S	F/\//	NW/SE	ONE/SW/			
Humandie	sturbance under bridge	high	med		none			
i i u i i u i			meu		none			
Evidence	of bats using bridge? (photos need	ed)			yes			
Below sec	tion completed only if bats/eviden	ce of bats of	oserved:					
Emergend	ce count performed? (If yes, comple	ete form nex	kt page)		yes	0		
Evidence	of bats using bird nests, if present?	a	1, TAU	$\mathcal{V}\mathcal{D}$	yes	Ono		
Type of Ev	vidence (circle all that apply)	1 hi	HC 10°	guano	staining bats observed			
Roost Typ	e				crevice	open are	ea	
Roost Mat	cerial	, j			metal	concrete		
Bat specie	s present (list all species):							

Bat Habit	tat As	ssess	ment l	Form		
					Bridges	,
Observers: <u>SETEP</u>		TIP or DOT	project number	: ''/*'/	na cross.	roads
Date: (0/27/23		Bridge Road	d (Name of facili	ty carried)	, r."	
County: Richland		Bridge Nun	nber:			
Crossing (Name af the feature intersected):	1	5-726				
% Surrounding habitat w/in 1 mi. of project footprint (approx)	Urban/Cor Herb/Shrut Deciduous/ Woody We	nmercial D/Grassland 'Evergreen/I tland/Herb	" Mixed Forest Wetland/Open 1	Suburban/R Agricultural Water	esidential	
Any trees >3" DBH within project footprint?	N/A	···, ···	ves	.<	pro	
Complete this section for Indiana bat countie	es (Avery: Cr	anberry Mi	, ne area only, Cl	nerokee, Cla	, y, Graham, I	laywood,
Jackson, Macon, Rutherford: Bat Cave/Lake Lu	re area only,	, Swain)	,,	,	,, ,	, ,
Any shaggy trees or snags >5" DBH?	N/A	,	ves		no	
If yes to shag/snag, how mu?fi sunlight do the	y receive dui	ring the day	, ? N/A	1-3 hours	4-6 hours 7	7+ haurs
If yes to shag/snag, list species of habitat trees	, >5"dbh	0 /	·			
If snags >5"DBH are present in sunlit areas, pr	ovide photo	s and locati	on.			
If large hollow trees are present, provide ph	otos andloc	ation.				
Presence of:		In project	footprint	In vicinty (0.	5 mi)	
Caves		yes	·	yes	/fi@	
Abandoned mines		yes		yes		
If 'yes' to any of the above, provid	de photos, d	escription, a	and location.			
Major water source in project footprint		river	stream/creel«	pond	lake	swamp
Suitable drinking habitat in the form of non-	stagnant, sr	nooth or sla	ack water?	yes	no	/N/A
Structure specific questions:						
Artificial lighting	unknown	е	no			
Guard rails	none	Concrete	timber	metal		
Deck type	concreté>	metal	timber	open grid		
Beam type	none	.c'oncet	steel	timber		
End/back wall type	concreté	timber	masonry			
Creosote evidence				yes		no
Suitable roosting crevices prese	nt (/ - 1X" w	ide)		yes >		no
Deck drains				yes" l		no
Max height of bridge deck above ground or w	ater (ft):	"				
Bridge alignment	N/S	E/W	NW/SE	NE/SW		
Human disturbance under bridge	high	med	low	none		
Evidence of bats using bridge? (photos need Below section completed only if bats/eviden	led) ce of bats ob	oserved:		yes	no	
Emergence count performed? (If yes, comple	ete form nex	t page)	1	yes	ono	
Evidence of bats using bird nests, if present	?		n (1	yes	0	
Type of Evidence (circle all that apply) Roost Type	NOPU	\(<	guano	staining crevice	bats obser open area	ved
Roost Material				metal	concrete	
Bat species present (list all species):						

للحر	🍠 Bat Habi	tat A	ssess	ment	Form		
	[Bridge	es
Observers:	SE/EP		TIP or DOT	project number	:	nalina	sroad (
Date:	6/27/23		Bridge Roa	d (Name of facili	, tv carried)	//6 /	•fi4'<
County:	Richland		Bridge Nun	nher:	cy carried,	//0 /	
Crossing (Name	of the feature intersected):	1-	- 7.6	iber.			
erossing (Nume	or the reature intersectedy.		00				
% Surrounding of project footp	habitat w/in 1 mi. print (approx)	Urban/Con Herb/Shru Deciduous Woody We	mmercial ıb/Grasslan /Evergreen/ etland/Herb	d / Mixed Forest Wetland/Open \	Suburban/I Agricultura Vater	Residentia '=	al ‴
Any trees >3" D	BH within project footprint?	N/A		yes		to	
Complete this s	ection for Indiana bat countie	es (Avery: Cra	nberry Min	e area only, Che	rokee, Clay,	Graham,	Haywood,
Jackson, Macor	n, Rutherford: Bat Cave/Lake	Lure area o	nly, Swain)				
Any shaggy tree	es or snags >5" DBH?	N/A		yes		no	
If yes to shag/sr	hag, how much sunlight da the	ey receive du	ring the day	? N/A	1-3 hours	4-6 hou	ırs 7+ hours
If yes to shag/sr	nag, list species of habitat tree	s>5" dbh					
If snags >5"DBI	Hare present in sunlit areas,	provide pho	tos and loca	ation.			
If large hollow	trees are present, provide ph	notos and loo	cation.				
Presence of:			In project	footprint	In vicinty (C	.5 mi)	
Cav	/es		yes	no	yes	knob	
Aba	andoned mines		yes	no	yes	not	
lf 'y	es' to any of the above, provi	ide photos, d	lescription,	and location.			
Major water so	urce in project footprint		river	stream/creek	pond	lake	swamp
Suitable drinkir	ng habitat in the form of non-s	tagnant, smo	ooth or slack	water?	yes	no	NBA
Structure spec	ific questions:						
Art	ificial lighting	unknown	<y <="" s="" td=""><td>no</td><td></td><td></td><td></td></y>	no			
Gu	ard rails	none	. concree?	timber	metal		
De	ck type	. concrete	metal	timber	open grid		
Bea	am type	none	concrete		timber		
End	d/back wall type	o cr	tim,ber	masonry			
Cre	eosote evidence		,	,	ves		∕′no
Sui	itable roosting crevices prese	ent (fiz - 1 "w	vide)		ves		BO
De	ck drains				ves '		no
			I	/	,		
Max height of h	oridge deck above ground or w	vater (ft):	70'				
Bridge alignme	ent	N/S	E/W	NW/SE	NE/SW		
Human disturb	ance under bridge	high	med	low	none		
	and and of Minge	шы	meu		none		
Evidence of ba	its using bridge? (photos nee	ded)	osorvod:		yes	no	
Emergence co	unt performed? (If you come	lete form no	vt nage)		VAC	m	
Evidence of bo	ats using bird posts if proceed	1910 IUIIII 19	(hage)		yes		
Type of Evider	no using biru nests, ii preselii	ι:	1	guana	yes staining	hote et	aconvod
Type of Evider	ice (circle all that apply)	. /11	BATS.	guano	staming		JSEIVEU
Roost Type		NV.	1		crevice	open a	rea
Roost Materia	l		FONNO		metal	concre	te
Bat species pre	esent (list all species):						

Bat Habi	tat As	ssess	ment	Form		
Observers				. Covoli	Bridges	read
Date: 6/27/72		Pridge Pee	project number	$\frac{c}{c}$	T 71	1000
County: $P(1) = P(1)$		Bridge Nur	nd (Name of facili mbor: %	ty carrieu)	4.10	
Crossing (Name of the feature intersected):		121	iibei. /o			
	L.	- 166				
% Surrounding habitat w/in 1 mi.	Urban/Co	mmercial		Suburban/	Residential	
of project footprint (approx)	Herb/Shru	ıb/Grasslan	d //7	Agricultura	d	
	Deciduous	/Evergreen/	Mixed Forest	/		
	Woody We	etland/Herb	Wetland/Open	Water		
Any trees >3" DBH within project footprint?	N/A		yes			
Complete this section for Indiana bat counti	es (Avery: Cra	inberry Mir	ie area only, Che	rokee, Clay,	Graham, Ha	ywood,
Jackson, Macon, Rutherford: Bat Cave/Lake	e Lure area or	nly, Swain)				
Any shaggy trees or'snags >5" DBH?	N/A		yes		no	
If yes to shag/snag, how much sunlight do th	ey receive du	ring the day	/? N/A	1-3 hours	4-6 hours	7+ hours
If yes to shag/snag, list species of habitat tree	es >5" dbh					
If snags >5"DBH are present in sunlit areas,	, provide pho [.]	tos and loc	ation.			
If large hollow trees are present, provide p	hotos and loc	cation.				
Presence of:		In project	footprint	In vicinty (().5 mi)	
Caves		yes	<no< td=""><td>yes</td><td>' no</td><td></td></no<>	yes	' no	
Abandoned mines		yes	no	yes	no	
If 'yes' to any of the above, prov	/ide photos, d	lescription,	and location.			
Major water source in project footprint	N/A	river	stream/creek	pond	lake	swamp
Suitable drinking habitat in the form of non-	stagnant, smo	both or slac	kwater?	yes	no	N/A
Structure specific questions:						
Artificial lighting	unknown	е	no			
Guard rails	none	o c ed	timber	metal		
Deck type	<concrete< td=""><td>metal</td><td>timber</td><td>open grid</td><td></td><td></td></concrete<>	metal	timber	open grid		
Beam type	none	c ete	steel	timber		
End/back wall type	concrete	/timber	masonry			
Creosote evidence				yes		n
Suitable roosting crevices pres	ent (fi - 1 "wi	de)		(yes)		no
Deck drains				yes		و
		201	/			
Max height of bridge decl above ground or v	water (ft):	-				
Bridge alignment	N/S	E/W	NW/SE	NE/SW		
Human disturbance under bridge	high	med	low	none		
Evidence of bats using bridge? (photos as	odod)			Voc		
Relow section completed only if hats (or ide	sueuj	hearwade		yes	(ID)	
Emorgoneo count performed? (ifuer com	nce of Dats Of	vt page)	l			
Evidence of bats using bird pasts if present	101111110) 110	vr hage)	A	yes	UIIU And	
Type of Evidence (sirele all that apply)	i u f 	1 LOU	guano	yes	AIIU	nucd
Poost Type	1. Kir	5 * * -	Buano	staining		ived
Roost Material	ND NW	, ~		motal	open area	1
	1			metal	concrete	
Bat species present (list all species):						

15	Bat Habit	tat A	ናናቀና	sment	Form			
	Bathaon				01111	Bridges		
Ohservers:	SELEP		TIP or DO	T project numbe	r: Cavali	na Crossi	roads	
Date:	6/28/23		Bridge Ro	ad (Nameof facil	ity carried)	Pine Gr	ove nd	
County:	Lexington		Bridge Nu	umber: 887	3	1		
, Crossing(N	lameofthefeatureintersected):		I-21	6				
% Surround	ding habitat w/in 1 mi.	Urban/Co	mmercial		Suburban/F	Residential		
of project	footprint (approx)	Herb/Shru	ub/Grasslar	nd /	Agricultural			
		Deciduous	fEvergreen	/Mixed Forest				
		Woody We	etland/Herk	o Wetland/Open \	Water""			
Any trees >	>3" DBH within project footprint?	N/A		yes		0		
Complete	this section for Indiana bat counties	s (Avery: Cra	anberry Mi	ne area only, Che	rokee, Clay,	Graham, Ha	iywood,	
Jackson, N	lacon, Rutherford: Bat Cave/Lake I	Lure area o	nly, Swain)					
Any shagg	y trees or snags >5" DBH?	N/A		е	-	no		
If yes to sh	ag/snag, how much sunlight do the	y receive du	uring the da	y? N/A "	1-3 hours	4-6 hours	7+ hours	
If yes to sha	ag/snag, list species of habitat trees	>5" dbh						
If snags >5	"DBH are present hfslinlit areas, p	rovide phot	tos and loc	ation.				
If large hol	low trees are present, provide photo	os and locat	ion.		1	. .		
Presence	of:		In projec	t footprint	In vicinty (U	0.5 mi)		
	Caves		yes	no	yes	(no)		
	Abandoned mines	la abataa a	yes	no	yes	(no)		
Majorwat	If yes to any of the above, provid	ae photos, t A	river	, and location.	nond	lako	swamp	
Suitable d	rinking babitat in the form of non-st	/\ agnant.cm/	ooth or slac	stream/creek	vos		swamp	
Structure	specific questions:	agnant, sin		K Water :	yes	110	(N/AQ	
Structure	Artificial lighting	unknown	Εvo	no				
	Guard rails	none	rott	imber	metal			
	Deck type	oncret	metaltimb	her	open grid			
	Beam type	none	concrete		timber			
	End/back wall type	Concrete	°timber	masonry	timber			
	Creosote evidence	concrete	timber	masonny	Ves		no	
	Suitable roosting crevices preser	nt (? - 1 "wi	de)		•.ves >		no	
	Deck drains		,		ves		no	
					,		-	
Maxheigh	nt of bridge deck above ground or wa	ater(ft):						
Bridge ali	gnment	N/S	E/W	NW/SE	NE/SW			
Human di	sturbance under bridge	high	med	low	none			
	C	.C						
Evidence	of bats using bridge? (photos need	led)			yes	no		
Below sec	tion completed only if bats/eviden	ce of bats o	bserved:			V		
Emergend	ce count performed? (If yes, comple	ete form ne	xt page)		yes			
Evidence	of bats using bird nests, if present	?	ļ		yes	0		
Type of Ev	vidence (circle all that apply)		Tound	guano	staining	bats obse	rved	
Roost Typ)e	, hats	. (20		crevice	open area	a	
Roost Ma	terial N() (/			metal	concrete		
Bat specie	s present (list all species):							

16	Bat Habi	tat As	ssess	ment	Form		
Observers: Date: County: Crossing (Na	$\frac{5E EP}{6 / 26 / 23}$ $\frac{R_i Ch a n d}{26 / 23}$ ame of the feature intersected):		TIP or DOT Bridge Roa Bridge Nun	project number: d (Name of facili nber: <u>WC6@</u> <i>I</i> -26	: <u>Cavoli)</u> ty carried) _ 	Bridge: ha (105 Harb 1	s <u>Sraads</u> Son <u>Bl</u> vd
% Surrounc of project f	ling habitat w/in 1 mi. Tootprint (approx)	Urban/Cor	nmercial	"' '> Herb/Shrub/ Agricultural	Suburban/I Grassland Deciduous,	Residentia /Evergreen	l " " /Mixed
		Forest			/		
		Woody We	etland/Herl	o Wetland/Oper	n Water '		
Any trees >	3" DBH within project footprint?	N/A		yes		"no	
Complete t	his section for Indiana bat counties	s (Avery: Cran	berry Mine	area only, Cherc	okee, Clay, G	raham, Ha	ywood,
Jackson, Ma	acon, Rutherford: Bat Cave/Lake Lu	ure area only,	Swain)				
Any shaggy	/trees or snags >5" DBH?	N/A		yes	4.21	no	7.1
If yes to sha	ag/snag, now much sunlight do the	ey receive du	ring the day	?? N/A	1-3 hours	4-6 hour	rs 7+ hours
If yes to sha	ag/snag, list species of habitat tree	S>5 ODN provide phot					
II SIIdgs >3	DBH are present in summareas,	provide prior	os anu ioca				
Droconco o	iow trees are present, provide pr		ln project	faatarint	In vicinty (C) E mi)	
Presence			ni project	nov		, no	
	Abandoned mines		yes ves	"no)	yes ves	'nov	
	If 'yes' to any of the above provi	ide nhotos d	escription	and location	yes	1107	
Majorwat	er source in project footprint	N/Δ	river	stream/creek	nond	lake	swamn
Suitable dr	inking habitat in the form of non-s	tagnant. smc	oth or slack	water?	ves	no	N/A
Structure	specific questions:				,		,
	Artificial lighting	unknown	yes				
	Guard rails	none	, concret	timber	metal		
	Deck type	concrete	metal	timber	open grid		
	Beam type	none	concrete	eye	timber		
	End/back wall type	concrete"	› timber	masonry			
	Creosote evidence				yes		%
	Suitable roosting crevices prese Deck drains	ent (fi - 1 "wid	de)		ves ves		no no
Maxheigh	t of bridge deck above ground or w	vater (ft)·	"// t				
Bridge alie	inment	N/S	E/W	NW/SE	SOEW		
Human dis	sturbance under bridge	i	med	low	none		
Evidence c	of bats using bridge? (photos neede	ed)		R	М		
Below sect	tion completed only if bats/eviden	ce of bats obs	erved:	0	а		
Emergence	e count performed? (If yes, comple	ete form next	page)	0	t		
Evidence o	of bats using bird nests, if present?			S	е		
Type of Ev Roost Typ	idence (circle all that apply) e			t	r i		
Bat specie	s present (list all species):						

	yes	no
guano	yes yes staining crevice metal	(o, bats observed open area concrete

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 28, 2023

Location

Lat: 34.103003 Lon: -81.178262



longitude

-81.1782619078468

latitude

34.1030029300919

SCDOT Structure ID #

EC 0202 Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

```
Culvert Width (ft)
```

6

8/11/23, 10:32 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Crevices
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 28, 2023

Location

Lat: 34.091 Lon: -81.166127



longitude

-81.1661272974139

latitude

34.0910002052923

SCDOT Structure ID #

9359

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- Concrete
- Four (or more) lane highway

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Vertical surfaces on I-beams
- Vertical surfaces between concrete end walls and bridge deck
- Rough surfaces
- Expansion joints
- Guardrails
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No
Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:27 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 28, 2023

Location

Lat: 34.087691 Lon: -81.163085



longitude

34.0876905341503

SCDOT Structure ID #

EP 0702 Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Standing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

```
Culvert Width (ft)
```

8/11/23, 10:33 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Crevices
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:28 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 28, 2023

Location

Lat: 34.08685 Lon: -81.1623



longitude

34.0868498678718

SCDOT Structure ID #

EP0801 Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Corrugated Steel

Conditions Under Structure

• Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

```
repeatnum
1
Structure #
Culvert Height (ft)
7
Culvert Width (ft)
```

7

Bat Information

Bat Indicators

• None

8/11/23, 10:33 AM

Bats Present

No

Area Information

Areas Inspected

- Rough surfaces
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Yes

Additional Information

Would you like to include additional information?

• Comment(s)

Additional Comments

Run parallel to interstate. Metal pipe, bottom rusted through in some places

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:28 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 28, 2023

Location

Lat: 34.084787 Lon: -81.160229



longitude

34.0847868692327

SCDOT Structure ID #

EC 0802 Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water
- Bare ground /sediment

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

Culvert Width (ft)

6

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Rough surfaces
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:19 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.051074 Lon: -81.124053



longitude

34.0510735588982

SCDOT Structure ID #

EC1905

Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Corrugated Steel

Road Type

State Road

Conditions Under Structure

- Rip rap
- Flowing water

Number of Total Culverts

2

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

```
Culvert Width (ft)
```

8/11/23, 10:34 AM

repeatnum

2

```
Structure #
```

Culvert Height (ft)

5

```
Culvert Width (ft)
```

5

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:21 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.050553 Lon: -81.124756



longitude

34.0505528439874

SCDOT Structure ID #

EC 1901 Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

Bare ground /sediment

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

Culvert Width (ft)

8/11/23, 10:34 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

• Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

Image

Image



image1-20230627-141535.jpg

Please provide a description of your image.

Entrance adjacent to storage favility

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:22 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.042555 Lon: -81.113947



longitude

34.0425551820142

SCDOT Structure ID #

EP 2202 Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

```
Culvert Width (ft)
```

8/11/23, 10:34 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Crevices
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:23 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.044038 Lon: -81.11954



longitude

34.0440380422473

SCDOT Structure ID #

EP2201

Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water
- Rip rap

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

Culvert Width (ft)

4

Bat Information

Bat Indicators

None

Bats Present

No

Area Information

Areas Inspected

- Crevices
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

Comment(s)

Additional Comments

Could not access culvert as too small and filled with riprap. Looked in with light and did not see any evidence of bats

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:24 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.043568 Lon: -81.11797



longitude

34.0435679431125

SCDOT Structure ID #

3374, 2102, 2121 Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Rip rap
- Flowing water
- Bare ground /sediment

Number of Total Culverts

2

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

```
Culvert Width (ft)
```

10

repeatnum

2

Structure #

```
Culvert Height (ft)
```

8

```
Culvert Width (ft)
```

10

Bat Information

Bat Indicators

None

Bats Present

No

Area Information

Areas Inspected

- Rough surfaces
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

Comment(s)

Additional Comments

2102 and 2121 connections, both 4-foot concrete

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:24 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.044713 Lon: -81.117598



longitude

34.0447132654644

SCDOT Structure ID #

7586

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- Bare ground /sediment
- Concrete
- Four (or more) lane highway

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

None

8/11/23, 10:35 AM

Bats Present

No

Area Information

Areas Inspected

- Vertical surfaces on I-beams
- Vertical surfaces between concrete end walls and bridge deck
- Expansion joints
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:25 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.09882 Lon: -81.174417



longitude

34.0988203604092

SCDOT Structure ID #

3082

Structure Information

Structure Type

Bridge - Steel I-beam

Underdeck/Culvert Material

Corrugated Steel

Road Type

Interstate

Conditions Under Structure

- Concrete
- Four (or more) lane highway

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Bat Information

Bat Indicators

None

Bats Present

8/11/23, 10:35 AM

Area Information

Areas Inspected

- Vertical surfaces on I-beams
- Vertical surfaces between concrete end walls and bridge deck
- Expansion joints
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:25 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.092762 Lon: -81.166195



longitude

34.0927619627064

SCDOT Structure ID #

EC0601

Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

6

```
Culvert Width (ft)
```

8/11/23, 10:36 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Rough surfaces
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:26 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.090107 Lon: -81.162683



longitude
latitude

34.0901065510008

SCDOT Structure ID #

Unnamed 1025 Structure Information

Structure Type

Culvert - Pipe/Round

Underdeck/Culvert Material

Concrete

Road Type

Interstate

Conditions Under Structure

- Concrete
- Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

5

```
Culvert Width (ft)
```

5

8/11/23, 10:36 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Rough surfaces
- Crevices

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No

Additional Information

Would you like to include additional information?

• Comment(s)

Additional Comments

Copperhead present, didn't walk full length

South Carolina Bats in Bridges and Culverts

Submitted by: Anna.Lark@hdrinc.com_HDR

Submitted time: Jul 10, 2023, 11:38:26 AM

Would you like to see the optional questions?

Simplified Survey

Contact Information

Investigator Name(s)

Jenessa Kay

Phone

(704) 807-1604

Location Information

Date

Jun 27, 2023

Location

Lat: 34.091043 Lon: -81.171866



longitude

-81.1718660324557

latitude

34.0910431158277

SCDOT Structure ID #

Unnamed 1026 Structure Information

Structure Type

Culvert – Box

Underdeck/Culvert Material

Concrete

Road Type

State Road

Conditions Under Structure

- Rip rap
- Flowing water

Number of Total Culverts

1

Supplemental Culvert Information

repeatnum

1

Structure #

Culvert Height (ft)

8

```
Culvert Width (ft)
```

8

8/11/23, 10:36 AM

Bat Information

Bat Indicators

• None

Bats Present

No

Area Information

Areas Inspected

- Crevices
- Rough surfaces

Migratory Bird Information

Is there evidence of migratory birds using the structure?

No