

**APPENDIX I**  
**AGENCY COORDINATION**

**From:** [Kelly, Kaitlyn](#)  
**To:** [Name, Christopher P CIV USARMY CENWK \(USA\)](#)  
**Cc:** [Herrington, Karen](#); [Trisha Crabill](#)  
**Subject:** [Non-DoD Source] Re: [EXTERNAL] Informal Consultation - LCAAP Next Generation Squad Weapons Facility Project  
**Date:** Thursday, August 15, 2019 2:39:08 PM

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Good afternoon Mr. Name,

Thank you for reaching out regarding the project changes to the proposed Next Generation Squad Weapons Facility Project in Jackson County Missouri.

The U.S. Fish and Wildlife Service has reviewed your August 9, 2019 email requesting the re-initiation of consultation on the proposed Next Generation Squad Weapons Facility Project in Jackson County, Missouri and submit these comments pursuant to the Endangered Species act of 1973, as amended (16 U.S.C. 1531-1544).

Based on the information in your August 9, 2019 email stating that the increased project area will add unsuitable roost trees and your February 8, 2019 email stating the proposed project will clear no more than 10 forested acres, and suitable tree habitat removal will be completed during the hibernation period of Indiana and northern long-eared bats (November 1 to March 31), the Service concurs with the Corps determination that the proposed work is not likely to adversely affect federally listed species. Should the scope, timing or manner of activity change, please contact this office.

Thank you for your interest in the conservation of threatened and endangered species.

If you have any questions regarding our comments, please contact me.

Kaitlyn Kelly  
Fish and Wildlife Biologist  
U.S. Fish & Wildlife Service  
Columbia Ecological Services Field Office  
Office phone: (573) 234-5012

On Fri, Aug 9, 2019 at 8:45 AM Name, Christopher P CIV USARMY CENWK (USA)

<Chris.Name@usace.army.mil <mailto:Chris.Name@usace.army.mil> > wrote:

Kaitlyn,

A slight modification the project has developed. The main building now could be a single or multiple buildings equaling up to 700,000 square feet. The project boundaries need to be expanded approximately 15 acres to accommodate. The expected impacted is still the same with a not likely to adversely affect the gray bat, Indiana bat, or the northern long-eared bat. Expanding the project boundary could result in the removal of 1 or 2 additional trees of relatively the same size/age. I conducted a sight visit and tree species within this area were either ash or honey locust with no exfoliating bark with an average dbh of about 6 inches. Please let me know you have reviewed this email and still concur with your original informal consultation assessment.

Thanks,

Chris Name  
Biologist PM-PR  
U.S. Army Corps of Engineers -- Kansas City District  
601 E 12th Street  
Kansas City, Mo 64106  
Office (816)-389-3829

## **Name, Christopher P CIV USARMY CENWK (USA)**

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**From:** Kelly, Kaitlyn <kaitlyn\_kelly@fws.gov>  
**Sent:** Friday, March 01, 2019 10:34 AM  
**To:** Name, Christopher P CIV USARMY CENWK (USA)  
**Cc:** Ledwin, Jane; Herrington, Karen  
**Subject:** [Non-DoD Source] Re: [EXTERNAL] Informal Consultation - LCAAP Next Generation Squad Weapons Facility Project

Good morning Mr. Name,

The U.S. Fish and Wildlife Service has reviewed your February 8, 2019 email requesting consultation on the proposed Next Generation Squad Weapons Facility Project in Jackson County, Missouri and submit these comments pursuant to the Endangered Species act of 1973, as amended (16 U.S.C. 1531-1544).

Based on the information in your February 8, 2019 email and the proposed project will clear no more than 10 forested acres, and suitable tree habitat removal will be completed during the hibernation period of Indiana and northern long-eared bats (November 1 to March 31), the Service concurs with the Corps determination that the proposed work is not likely to adversely affect federally listed species. Should the scope, timing or manner of activity change, please contact this office.

Thank you for your interest in the conservation of threatened and endangered species.

If you have any questions regarding our comments, please contact me.

Kaitlyn Kelly

Fish and Wildlife Biologist  
U.S. Fish & Wildlife Service  
Columbia Ecological Services Field Office  
Office phone: (573) 234-5012

----- Forwarded message -----

From: Name, Christopher P CIV USARMY CENWK (USA) <Chris.Name@usace.army.mil  
<mailto:Chris.Name@usace.army.mil> <mailto:Chris.Name@usace.army.mil <mailto:Chris.Name@usace.army.mil> > >  
Date: Fri, Feb 8, 2019 at 1:05 PM  
Subject: [EXTERNAL] Informal Consultation - LCAAP Next Generation Squad Weapons Facility Project  
To: Ledwin, Jane <jane\_ledwin@fws.gov <mailto:jane\_ledwin@fws.gov> <mailto:jane\_ledwin@fws.gov  
<mailto:jane\_ledwin@fws.gov> > >  
Cc: Herrington, Karen <Karen\_herrington@fws.gov <mailto:Karen\_herrington@fws.gov>  
<mailto:Karen\_herrington@fws.gov <mailto:Karen\_herrington@fws.gov> > >, Horton, Kale E CIV USARMY CENWK (US)  
<Kale.Horton@usace.army.mil <mailto:Kale.Horton@usace.army.mil> <mailto:Kale.Horton@usace.army.mil  
<mailto:Kale.Horton@usace.army.mil> > >

Jane,

On behalf of the U.S. Army at Lake City Army Ammunition Plant, USACE would like to conduct informal consultation regarding Section 7 of the Endangered Species Act as well as comply with the Fish and Wildlife Coordination Act. An IPaC was conducted and an official list was produced. The IPaC indicated that the gray bat, Indiana bat, and the northern long-eared bat have the potential to occur within the project area. However, due to unknown error the official list was not able to be viewed or downloaded from the IPaC website.

Project Description: Construct a 160,000 sq ft NGSW facility on LCAAP, Jackson County, Missouri at Site Option 1 (see attachment). The facility would be constructed within a 40-acre area of the secure inner fence with an additional 7.5-acre parking area outside the inner fence to the northeast. The facility would produce small caliber ammunition for the U.S. military similar to existing production lines. The Site Option 1 is located on previously developed land. Up to 50 trees of various sizes and species are located within Site Option 1 and could be removed. If tree clearing activities are required, removal will be conducted outside of the active bat season 1 April - 31 October. The NGSW facility is expected to begin operations by FY24.

Effects: Site Option 1 (attached) does not contain habitat conditions that are conducive to the gray bat, Indiana bat, or the northern long-eared bat. The location is a periodically mowed grass lot with less than 50 trees. Trees are scattered throughout the 40-acre site. No streams, rivers, or other bodies of open water are located within the project area. Similarly, Site Options 2 and 3 are open grass lots periodically mowed with no trees or open bodies of water. If tree clearing occurs it would be conducted outside the months of 1 April - 31 October. There are no known hibernacula or maternity trees within or adjacent the project area. Therefore, the LCAAP NGSW Facility Project is not likely to adversely affect the gray bat, Indiana bat, or the northern long-eared bat.

Thank you,

Chris Name  
Biologist PM-PR  
U.S. Army Corps of Engineers -- Kansas City District  
601 E 12th Street  
Kansas City, Mo 64106

Office (816)-389-3829



# United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Missouri Ecological Services Field Office  
101 Park Deville Drive  
Suite A  
Columbia, MO 65203-0057  
Phone: (573) 234-2132 Fax: (573) 234-2181

In Reply Refer To:

February 08, 2019

Consultation Code: 03E14000-2019-SLI-0755

Event Code: 03E14000-2019-E-01898

Project Name: NGSW Facility

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

This response has been generated by the Information, Planning, and Conservation (IPaC) system to provide information on natural resources that could be affected by your project. The U.S. Fish and Wildlife Service (Service) provides this response under the authority of the Endangered Species Act of 1973 (16 U.S.C. 1531-1543), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), the Migratory Bird Treaty Act (16 U.S.C. 703-712), and the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.).

## Threatened and Endangered Species

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

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. **Note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days.** The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

## Consultation Technical Assistance

Refer to the Midwest Region [S7 Technical Assistance](#) website for step-by-step instructions for making species determinations and for specific guidance on the following types of projects: projects in developed areas, HUD, pipelines, buried utilities, telecommunications, and requests for a Conditional Letter of Map Revision (CLOMR) from FEMA.

### Federally Listed Bat Species

Indiana bats, gray bats, and northern long-eared bats occur throughout Missouri and the information below may help in determining if your project may affect these species.

*Gray bats* - Gray bats roost in caves or mines year-round and use water features and forested riparian corridors for foraging and travel. If your project will impact caves, mines, associated riparian areas, or will involve tree removal around these features particularly within stream corridors, riparian areas, or associated upland woodlots gray bats could be affected.

*Indiana and northern long-eared bats* - These species hibernate in caves or mines only during the winter. In Missouri the hibernation season is considered to be November 1 to March 31. During the active season in Missouri (April 1 to October 31) they roost in forest and woodland habitats. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags 5 inches diameter at breast height (dbh) for Indiana bat, and 3 inches dbh for northern long-eared bat, that have exfoliating bark, cracks, crevices, and/or hollows), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Tree species often include, but are not limited to, shellbark or shagbark hickory, white oak, cottonwood, and maple. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat and evaluated for use by bats. If your project will impact caves or mines or will involve clearing forest or woodland habitat containing suitable roosting habitat, Indiana bats or northern long-eared bats could be affected.

Examples of unsuitable habitat include:

- Individual trees that are greater than 1,000 feet from forested or wooded areas;
  - Trees found in highly-developed urban areas (e.g., street trees, downtown areas);
  - A pure stand of less than 3-inch dbh trees that are not mixed with larger trees; and
  - A stand of eastern red cedar shrubby vegetation with no potential roost trees.
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## Using the IPaC Official Species List to Make No Effect and May Affect Determinations for Listed Species

1. If IPaC returns a result of “There are no listed species found within the vicinity of the project,” then project proponents can conclude the proposed activities will have **no effect** on any federally listed species under Service jurisdiction. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

2. If IPaC returns one or more federally listed, proposed, or candidate species as potentially present in the action area of the proposed project other than bats (see #3 below) then project proponents can conclude the proposed activities **may affect** those species. For assistance in determining if suitable habitat for listed, candidate, or proposed species occurs within your project area or if species may be affected by project activities, you can obtain [Life History Information for Listed and Candidate Species](#) through the S7 Technical Assistance website.

3. If IPaC returns a result that one or more federally listed bat species (Indiana bat, northern long-eared bat, or gray bat) are potentially present in the action area of the proposed project, project proponents can conclude the proposed activities **may affect** these bat species **IF** one or more of the following activities are proposed:

- a. Clearing or disturbing suitable roosting habitat, as defined above, at any time of year;
- b. Any activity in or near the entrance to a cave or mine;
- c. Mining, deep excavation, or underground work within 0.25 miles of a cave or mine;
- d. Construction of one or more wind turbines; or
- e. Demolition or reconstruction of human-made structures that are known to be used by bats based on observations of roosting bats, bats emerging at dusk, or guano deposits or stains.

If none of the above activities are proposed, project proponents can conclude the proposed activities will have **no effect** on listed bat species. Concurrence from the Service is not required for **No Effect** determinations. No further consultation or coordination is required. Attach this letter to the dated IPaC species list report for your records. An example ["No Effect" document](#) also can be found on the S7 Technical Assistance website.

If any of the above activities are proposed in areas where one or more bat species may be present, project proponents can conclude the proposed activities **may affect** one or more bat species. We recommend coordinating with the Service as early as possible during project planning. If your project will involve removal of over 5 acres of suitable forest or woodland habitat, we recommend you complete a Summer Habitat Assessment prior to contacting our office to expedite the consultation process. The Summer Habitat Assessment Form is available in Appendix A of the most recent version of the [Range-wide Indiana Bat Summer Survey Guidelines](#).

## Other Trust Resources and Activities

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*Bald and Golden Eagles* - Although the bald eagle has been removed from the endangered species list, this species and the golden eagle are protected by the Bald and Golden Eagle Act and the Migratory Bird Treaty Act. Should bald or golden eagles occur within or near the project area please contact our office for further coordination. For communication and wind energy projects, please refer to additional guidelines below.

*Migratory Birds* - The Migratory Bird Treaty Act (MBTA) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Service. The Service has the responsibility under the MBTA to proactively prevent the mortality of migratory birds whenever possible and we encourage implementation of recommendations that minimize potential impacts to migratory birds. Such measures include clearing forested habitat outside the nesting season (generally March 1 to August 31) or conducting nest surveys prior to clearing to avoid injury to eggs or nestlings.

*Communication Towers* - Construction of new communications towers (including radio, television, cellular, and microwave) creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. However, the Service has developed [voluntary guidelines for minimizing impacts](#).

*Transmission Lines* - Migratory birds, especially large species with long wingspans, heavy bodies, and poor maneuverability can also collide with power lines. In addition, mortality can occur when birds, particularly hawks, eagles, kites, falcons, and owls, attempt to perch on uninsulated or unguarded power poles. To minimize these risks, please refer to [guidelines](#) developed by the Avian Power Line Interaction Committee and the Service. Implementation of these measures is especially important along sections of lines adjacent to wetlands or other areas that support large numbers of raptors and migratory birds.

*Wind Energy* - To minimize impacts to migratory birds and bats, wind energy projects should follow the Service's [Wind Energy Guidelines](#). In addition, please refer to the Service's [Eagle Conservation Plan Guidance](#), which provides guidance for conserving bald and golden eagles in the course of siting, constructing, and operating wind energy facilities.

### Next Steps

Should you determine that project activities **may affect** any federally listed species or trust resources described herein, please contact our office for further coordination. Letters with requests for consultation or correspondence about your project should include the Consultation Tracking Number in the header. Electronic submission is preferred.

If you have not already done so, please contact the Missouri Department of Conservation (Policy Coordination, P. O. Box 180, Jefferson City, MO 65102) for information concerning Missouri Natural Communities and Species of Conservation Concern.

We appreciate your concern for threatened and endangered species. Please feel free to contact our office with questions or for additional information.

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Karen Herrington

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Wetlands
-

## Official Species List

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

This species list is provided by:

**Missouri Ecological Services Field Office**

101 Park Deville Drive

Suite A

Columbia, MO 65203-0057

(573) 234-2132

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## Project Summary

Consultation Code: 03E14000-2019-SLI-0755

Event Code: 03E14000-2019-E-01898

Project Name: NGSW Facility

Project Type: DEVELOPMENT

Project Description: Construction of a 170,000 sq ft building to produce a new small arms cartridge for the U.S. Army. Preferred construction footprint is primarily on a previously developed area.

### Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.1024077801277N94.26260674633008W>



Counties: Jackson, MO

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## Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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

## Mammals

NAME	STATUS
Gray Bat <i>Myotis grisescens</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6329">https://ecos.fws.gov/ecp/species/6329</a>	Endangered
Indiana Bat <i>Myotis sodalis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/5949">https://ecos.fws.gov/ecp/species/5949</a>	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9045">https://ecos.fws.gov/ecp/species/9045</a>	Threatened

## Critical habitats

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

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# USFWS National Wildlife Refuge Lands And Fish Hatcheries

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

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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# Wetlands

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

## FRESHWATER EMERGENT WETLAND

- [PEM1Ad](#)
- [PEM1Cd](#)
- [PEM1A](#)
- [PEM1Ax](#)
- [PEM1Fh](#)

## FRESHWATER POND

- [PUBGx](#)
- [PUBKx](#)

## RIVERINE

- [R4SBC](#)
  - [R4SBCx](#)
  - [R5UBH](#)
-



**DEPARTMENT OF THE ARMY**  
**U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BLDG**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY, MISSOURI 64106-2824**

MAY 1, 2019

Communication and Review Section  
Planning Branch

Dr. Toni M. Prawl  
Missouri Department of Natural Resources State Historic Preservation Office  
ATTN: Review and Compliance  
P. O. Box 176  
Jefferson City, MO 65102

Dear Dr. Prawl

Lake City Army Ammunition Plant (LCAAP) has requested the assistance of the U.S. Army Corps of Engineers, Kansas City District (Corps) to coordinate the construction of the Next Generation Squad Weapons Facility (NGSW) under Section 106 of the National Historic Preservation Act (NHPA), and its implementing regulation 36 Code of Regulations Part 800. Two locations have been proposed for this construction effort south of the main Installation area. Due to the hazardous nature of ammunition manufacture, the project areas were made artificially large to allow flexibility in construction due to safety regulations requiring set distances from these structures.

A review of the LCAAP Integrated Cultural Resources Management Plan found that a background review for the proposed project areas had occurred, but systematic archaeological survey had not occurred within either area. On March 27, 2019 I conducted an archaeological reconnaissance survey consisting of general walkover of the proposed area and windshield survey. Additionally, I examined soil samples at five locations in proposed project option 1 and three locations in proposed project option 2 to determine if intact soil horizons were present. Enclosed with this letter is a report of the background review and the results of my findings. The results of these efforts confirmed the assessment by the Installation staff that both areas have been heavily disturbed due to previous construction activities and infrastructure development. No intact cultural deposits are likely to be present anywhere in the proposed areas.

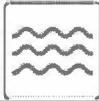
Due to the above we request your concurrence with the determination that no historic properties will be affected by the proposed project. We also request any comments be submitted within 30 days of receipt of this letter. If no comments are received, project concurrence will be assumed and the project will proceed.

Thank you for your consideration in this matter. If you have any questions or have need of further information please contact me at Phillip.Alig@usace.army.mil or at (816) 389-3081.

Sincerely,

Phillip Alig  
Archeologist

Enclosures



Missouri Department of [dnr.mo.gov](http://dnr.mo.gov)

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

June 4, 2019

Ms. Sara Clark  
Lake City Army Ammunition Plant  
Building 6 GOV JMLC-EN  
State Route 7 and 78 Highway  
Independence, MO 64051

Re: **SHPO Project Number: 007-JA-15** – Lake City Army Ammunition Plant Building 139  
Repair and Renovation Project, Independence, Jackson County, Missouri (USDOD)

Dear Ms. Clark:

Thank you for submitting information about the above referenced project for our review pursuant to Section 106 of the National Historic Preservation Act (P.L. 89-665) and the Advisory Council on Historic Preservation's regulation 36 CFR Part 800, which require identification and evaluation of cultural resources.

We have reviewed the report *NHPA Review for the Proposed Next Generation Squad Weapons Ammunition Manufacturing Facility, Jackson County, Missouri* by USACE Archaeologist Philip Alig, submitted to our office on May 3, 2019, concerning the above referenced project. Based on this review it is evident that a thorough and adequate cultural resources survey has been conducted of the project area. We concur with your recommendation that there will be **no historic properties affected**, and therefore, we have no objection to the initiation of project activities.

If project plans change, please send additional information documenting the revisions for further review. In the event that cultural materials are encountered during project activities, all construction should be halted, and this office notified as soon as possible in order to determine the appropriate course of action.



Recycled paper

Ms. Clark

Page 2

If you have any questions, please write to State Historic Preservation Office, P.O. Box 176, Jefferson City, Missouri 65102 or call Amy Rubingh (573) 751-4589. Please be sure to include the SHPO Log Number **(007-JA-15)** on all future correspondence or inquiries relating to this project.

Sincerely,

STATE HISTORIC PRESERVATION OFFICE

*Toni M. Prawl*

Toni M. Prawl, Ph.D.  
Director and Deputy State  
Historic Preservation Officer



TMP:ar



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Lance M. Foster  
Tribal Historic Preservation Officer  
Iowa Tribe of Kansas and Nebraska  
3345 B. Thrasher Road  
White Cloud, KS 66094

Dear Mr. Foster,

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Ms. Crystal Douglas  
Kaw Nation  
P.O. Box 50  
Kaw City, Oklahoma 74641

Dear Ms. Douglas:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Mr. Thomas Parker  
Tribal Historic Preservation Officer  
Omaha Tribe of Nebraska  
P.O. Box 368  
Macy, NE 68039

Dear Mr. Parker:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Dr. Andrea A. Hunter, THPO  
Osage Nation Historic Preservation Office  
627 Grandview  
Pawhuska, OK 74056

Dear Dr. Hunter:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Chairperson Joseph Rupnick  
Prairie Band Potawatomi Nation  
16281 Q Road  
Mayetta, Kansas 66509

Dear Chairperson Rupnick:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Mr. Nicholas Mauro  
Tribal Historic Preservation Officer  
Ponca Tribe of Nebraska  
P.O. Box 288  
Niobrara, Nebraska 68760

Dear Mr. Mauro

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Ms. Halona Cabe  
Tribal Historic Preservation Officer  
Ponca Tribe of Oklahoma  
20 White Eagle Drive  
Ponca City, Oklahoma 74601

Dear Ms. Cabe:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure



REPLY TO  
ATTENTION OF

**DEPARTMENT OF THE ARMY**  
**CORPS OF ENGINEERS, KANSAS CITY DISTRICT**  
**635 FEDERAL BUILDING**  
**601 E 12<sup>TH</sup> STREET**  
**KANSAS CITY MO 64106-2824**

Planning Branch

Chairperson Tiauna Carnes  
Sac and Fox Nation of Missouri  
305 N. Main Street  
Reserve, Kansas 66434

Dear Chairperson Carnes:

The Kansas City District of the U.S. Army Corps of Engineers (USACE), on behalf of Lake City Army Ammunition Plant, is currently preparing a draft environmental assessment (EA) for the construction of a new Army ammunition plant. Enclosed for your review is a map and description of the proposed action and alternatives. The entire draft EA will be provided for your review following its completion.

We respectfully request that you provide any input or information your Tribal Government may have to be considered during the development of the draft EA. Upon its completion, your office will be provided the opportunity to comment on the findings of the draft EA. If you have any questions or concerns, please contact me at Phillip.alig@usace.army.mil or by phone at (816) 389-3081 or Mr. Chris Name, Biologist, at (816) 389-3829 or via email at Chris.Name@usace.army.mil.

Sincerely,

Phillip Alig  
Archeologist  
USACE, Kansas City District

Enclosure

**APPENDIX II  
PUBLIC NOTICE  
AND  
COMMENTS**

# PUBLIC NOTICE



**US Army Corps of Engineers**  
**Kansas City District**

**Project No: 2019-004-CW**

**Issue Date: 2019-09-11**

**Close Date: 2019-10-11**

**INTRODUCTION:** The U.S. Army Corps of Engineers, Kansas City District (USACE-NWK), has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended, for the proposed construction and operation of a Next Generation Squad Weapon – Ammunition (NGSW-A) production facility at Lake City Army Ammunition Plant (LCAAP). The project is located on the east side of Independence, Missouri and less than 5-miles from the City of Buckner. The USACE has made a preliminary determination that the proposed action would not result in significant degradation to the environment and therefore supports preparation of a draft FONSI. The EA, draft FONSI, and supporting information are provided with issuance of this Public Notice on 11 September 2019 to initiate the 30-day public review and comment period.

This Public Notice and project related information are being provided to solicit public input on the proposed action. Any interested party is invited to submit to this office written facts or objections relative to the proposed project, both favorable and unfavorable in nature. All comments will be accepted, responded to, and made part of the public record. Copies of all comments, including names and addresses of commenters, may be provided to applicants upon request. The USACE will consider all pertinent comments in preparing final documentation for completion of the NEPA process through signature of the FONSI by the LCAAP Commander.

**CONTACT INFORMATION:** The EA and draft FONSI for this project are published in *The Examiner* daily newspaper and a physical copy has been posted at the Mid Continent Public Library-North Independence, Missouri. The Notice is provided to the public, resource agencies, and federally recognized Native American Tribes for review at the USACE, Kansas City District office and on line at the following web page: <https://www.nwk.usace.army.mil/Media/Public-Notices/Planning-Public-Notices/>. The USACE will review comments received in response to this Public Notice to complete project evaluation for compliance with the requirements of NEPA, and other Federal, state, and local regulations. Project information may also be obtained by contacting Mr. Chris Name, U.S Army Corps of Engineers, Kansas City District, ATTN: Environmental Resources Section, 601 East 12th Street, Kansas City, Missouri 64106, by email at [chris.name@usace.army.mil](mailto:chris.name@usace.army.mil), or by telephone at (816) 389-3829. All comments to this public notice should be directed to the above address on or before 11 October 2019.

**PROJECT LOCATION** (As shown on Attachment 1): The project is located on the east side of Independence, Missouri, less than 5-miles southwest from Buckner, Missouri. The project area is approximately 55-acres, not including the 7.5-acre material staging/parking area, and is located entirely on LCAAP.

**ACTIVITY:** The USACE-NWK, on behalf of LCAAP, proposes the construction and operation of a NGSW-A production facility within the existing secure inner fence area of LCAAP with an associated parking area outside the inner fence. The NGSW-A facility would consist of a single building or multiple structures equaling approximately 450,000 to 625,000 square feet and located within a 55-acre project area. The main building(s), supporting infrastructure and associated explosive safety arcs are expected to require approximately 30-acres of the project area. An additional 2 to 4-acre parking lot would be built outside the secure inner fence within a 7.5-acre area northeast of the constructed NGSW-A facility. This location would also be used as a contractor material staging area. Road improvements and storm water drainage structures would also occupy a portion of the project area and would be integrated into LCAAP's infrastructure. Existing abandoned utility structures within the project area would be removed and minor ground grading and contouring would occur as needed. Five World War II era general storage buildings and two semi-permanent storage buildings equaling approximately 18,000 square feet are located within the northwest corner of the project area and could be demolished if required by facility designs. Utility lines, such as electrical lines, would be rerouted or integrated within the facilities infrastructure. Construction within existing explosive safety/quantity distance arcs would be avoided to adhere to DoD safety regulations (DESR 6055.09). Existing Installation Restoration Program (IRP) sites are known to occur within and adjacent to the project area. If unknown contamination is identified during construction, then the contractor would contact LCAAP Environmental Engineering for appropriate guidance and instruction. The contractor is required to follow all applicable federal, state, local and LCAAP regulations, plans and environmental policy; to include applicable permits. If implemented, construction of the NGSW-A facility would likely begin prior to Fiscal Year (FY) 2024, subject to availability of funding.

**APPLICANT'S STATEMENT OF AVOIDANCE, MINIMIZATION, AND COMPENSATORY MITIGATION FOR UNAVOIDABLE IMPACTS TO AQUATIC RESOURCES:** The proposed action has been designed to incorporate all practicable measures to avoid, minimize, and mitigate unavoidable adverse impacts to aquatic resources while still meeting the project purpose.

**AIR QUALITY:** LCAAP, as a whole, is classified by Missouri Department of Natural Resources (MDNR) as a major source of air emissions, requiring monitoring. The proposed action area was reviewed on the Environmental Protection Agency website for National Ambient Air Quality Standards (NAAQS). Results indicated that the county in which the proposed action is located is in non-attainment for Sulfur Dioxide (2010). All other NAAQS are in attainment for the proposed action area. The proposed action is not expected to result in emissions; specifically Sulfur Dioxide. A Record of Non-Applicability (RONA) is provided in Appendix IV of the EA.

**NOISE:** No sensitive noise receptors are known to occur in the vicinity of the proposed action area. The closest possible sensitive noise receptor is a church located more than 1-mile away.

**WETLANDS/WATERS OF THE U.S:** There are no wetlands or waters of the United States within the proposed action area. Construction activities may require the construction contractor to acquire a State National Pollutant Discharge Elimination System Permit from MDNR. Best Management Practices (BMPs) would be implemented to reduce erosion and discharge of sediments into adjacent drainages. Examples of BMPs include: keeping heavy construction equipment out of drainages whenever possible, installing silt fences, having spill containment plans for construction equipment, and using contaminant free materials.

**FLOODPLAINS:** The proposed action area was reviewed in accordance with Executive Order 11988, Floodplain Management. The project area is not located within a 100-year floodplain.

**BIOLOGICAL RESOURCES:** Terrestrial habitat consists of a previously disturbed grass lot, within the location of a demolished building. Less-than 50 honey locust and ash trees are located

throughout the proposed action area. There is no aquatic habitat within the proposed action area. Birds and an occasional small mammal are known to occur within the proposed action area.

**ENDANGERED SPECIES:** The Indiana bat, northern long-eared bat, and gray bat have been listed as threatened and/or endangered by the U.S. Fish and Wildlife Service (USFWS), and have the potential to occur in the project study area. In compliance with the USFWS Coordination Act and Endangered Species Act, the USFWS was consulted on 08 February 2019. A preliminary determination was made by USACE that the Recommended Plan would have no effect on the three listed bat species. The USFWS concurred with this determination in an email dated 15 August 2019 (Appendix I of the EA).

**SOCIOECONOMICS:** The region of influence surrounding LCAAP includes Jackson County, Missouri and contains three neighboring cities: Independence, Blue Springs, and Buckner. Independence and Blue Springs are part of the greater Kansas City metropolitan area.

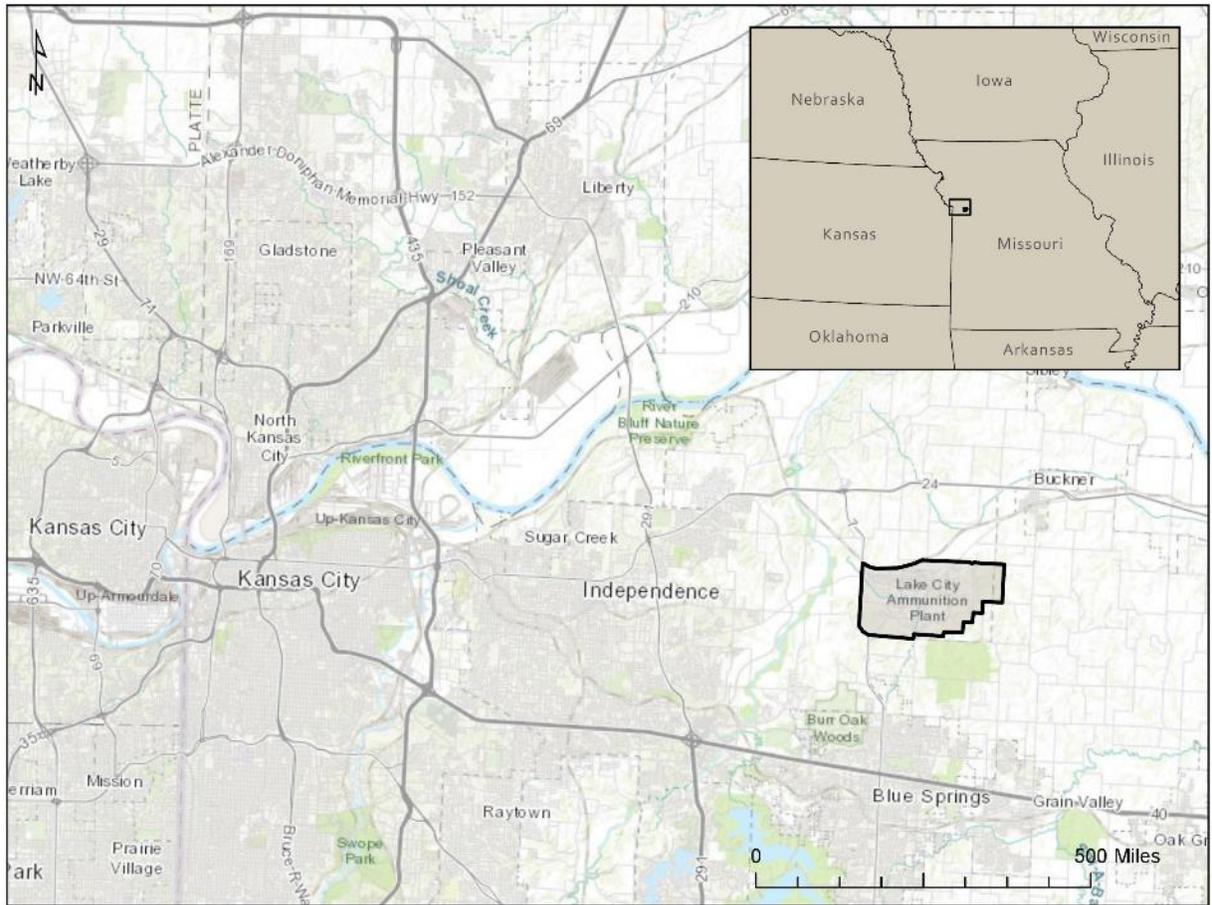
**CULTURAL RESOURCES:** The proposed action has been reviewed in compliance with the National Historic Preservation Act of 1966 (Public Law 89-665) including a check of the National Register of Historic Places (NRHP) and supplements thereto. No sites or structures considered eligible for inclusion on the NRHP are located within the construction boundaries of the proposed action area. USACE contacted the Missouri State Historic Preservation Office (SHPO) with the determination that no historic properties will be affected by the project activities in a letter dated 1 May 2019. A concurrence letter from SHPO was received on 4 June 2019 (Appendix I of the EA). During the planning phase, project designs expanded the proposed action area to 55 acres, requiring additional SHPO coordination. Additional coordination with the SHPO and Native American Tribes is being conducted concurrently with this public review period. Native American Tribes contacted include: Osage Nation, Ponca Tribe of Nebraska, Ponca Tribe of Oklahoma, Omaha Tribe of Nebraska, Kaw Nation, Prairie Band Potawatomi Nation, Sac and Fox Nation of Missouri in Kansas and Nebraska, and the Iowa Tribe of Kansas and Nebraska.

**TRANSPORTATION:** Interstate 70 (both east and west bound) provides regional access. State routes that provide access to the installation include Highway 7 and Highway 24. Other methods of transportation include the Charles B. Wheeler Downtown Kansas City Airport, the Kansas City International Airport, and Union Pacific Railroad. LCAAP has one inactive rail spur slated for future tenant use.

**HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE:** The proposed action area is located within the boundaries of Area 7 and Area 21 of the Installation-Wide Operable Unit, which are management areas with potential contamination concerns. LCAAP Land Use Controls would be in effect during the construction of the project. If contamination is identified, the selected contractor would remediate contaminated material, as needed, through coordination with LCAAP; ensuring contaminated materials are appropriately handled, transported, and disposed. The proposed action is not intended to disturb groundwater within Area 7 and Area 21.

**CUMULATIVE IMPACTS:** Chapter 5.0 of the EA considers temporary, direct, and indirect effects of the proposed project on the environment, as well as potential cumulative impacts resulting from other reasonably foreseeable projects within the study area. Only resource categories that would result in at least minor impacts (beneficial or adverse) as a result of implementing the Preferred Alternative were considered for the cumulative impact assessment.

# Attachment 1. Location of LCAAP Independence, Missouri.



**Attachment 2. Proposed NGSW Facility Location (Preferred Alternative).**



**APPENDIX III  
WETLAND DATA**

### WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC01  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.102094°W Long: -94.253277°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

#### VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>polygonum spp.</i></u>	40	Y	FAC	
2. <u><i>Setaria pumila</i></u>	15	N	FAC	
3. <u><i>carex spp.</i></u>	15	N	FAC	
4. <u><i>Cyperus esculentus</i></u>	10	N	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
80 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 10 x 2 = 20  
 FAC species 70 x 3 = 210  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column Totals: 80 (A) 230 (B)  
 Prevalence Index = B/A = 2.88

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Remarks: (Include photo numbers here or on a separate sheet.)  <b>Area has been mowed, but enough plant material is present to determine at least 4 species.</b>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

**SOIL**

Sampling Point: LC01

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/1	95	7.5YR4/6	3	C	M	Si Cl	

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC02  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.101434°W Long: -94.253768°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>polygonum spp.</i></u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	
2. <u><i>Setaria pumila</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
3. <u><i>carex spp.</i></u>	<u>5</u>	<u>N</u>	<u>FAC</u>	
4. <u><i>Cyperus esculentus</i></u>	<u>5</u>	<u>N</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)  
 Total Number of Dominant Species Across All Strata: 1 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 5 x 2 = 10  
 FAC species 60 x 3 = 180  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column Totals: 65 (A) 190 (B)  
 Prevalence Index = B/A = 2.92

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Remarks: (Include photo numbers here or on a separate sheet.)  <b>Area has been mowed, but enough plant matter is present to determine at least 4 species.</b>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC03  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.099854°W Long: -94.267586°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil , or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )				
1. <u><i>polygonum spp.</i></u>	25	Y	FAC	
2. <u><i>Setaria pumila</i></u>	5	Y	FAC	
3. <u><i>carex spp.</i></u>	35	Y	FAC	
4. <u><i>Cyperus esculentus</i></u>	5	N	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
70 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 5 x 2 = 10  
 FAC species 65 x 3 = 195  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column Totals: 70 (A) 205 (B)  
 Prevalence Index = B/A = 2.93

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Remarks: (Include photo numbers here or on a separate sheet.)  <b>Area has been mowed, but a few species were identified from last years growing season.</b>	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____
--	--

**SOIL**

Sampling Point: LC03

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/1	50	10YR3/6	5	c	m	Si Cl	
	10YR3/2	35						
	10YR4/2	10						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input checked="" type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								
<b>Soil appears to be disturbed. Lower horizontal clays are near the surface a inconsistencies from one soil profile to the next within a 5' radius.</b>								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b>		
Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
<b>Area is about 0.56 acres. Low area within a grass field. No clear evidence it drains a particular direction, but seems to just seep into the ground.</b>		

### WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC04  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.099216°W Long: -94.265100°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil , or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

#### VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )				
1. <u><i>polygonum spp.</i></u>	20	Y	FAC	
2. <u><i>Setaria pumila</i></u>	15	Y	FAC	
3. <u><i>carex spp.</i></u>	45	Y	FAC	
4. <u><i>Cyperus esculentus</i></u>	5	N	FACW	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
85 = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>80</u>	x 3 = <u>240</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>85</u> (A)	<u>250</u> (B)

Prevalence Index = B/A = 2.94

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: (Include photo numbers here or on a separate sheet.)  
**Area has been mowed, but a few species were identified from last years growing season.**

**SOIL**

Sampling Point: LC04

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/1	60	10YR3/6	10	c	m	Si Cl	
	10YR3/2	25						
	10YR4/2	5						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input checked="" type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								
<b>Soil appears to be disturbed. Lower horizontal clays are near the surface a inconsistencies from one soil profile to the next within a 5' radius.</b>								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b>		
Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
<b>Area is about 0.2 acres. Low area within a grass field. Seems to drain to the south into a drainage ditch/feature.</b>		

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC05  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.097917°W Long: -94.267499°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil , or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>polygonum spp.</i></u>	<u>35</u>	<u>Y</u>	<u>FAC</u>	
2. <u><i>Setaria pumila</i></u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
3. <u><i>carex spp.</i></u>	<u>45</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	<u>NI</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>110</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 0 x 2 = 0  
 FAC species 110 x 3 = 330  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column Totals: 110 (A) 330 (B)  
 Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: (Include photo numbers here or on a separate sheet.)

**Area has been mowed, but a few species were identified from last years growing season.**

**SOIL**

Sampling Point: LC05

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR2/1	60	10YR3/6	10	c	m	Si Cl	disturbed
	10YR3/2	25						
	10YR4/2	5						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators:</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input checked="" type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								
<b>Soil appears to be disturbed. Lower horizontal clays are near the surface a inconsistencies from one soil profile to the next within a 5' radius.</b>								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b>		
Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		
<b>Area is about 0.3 acres. Low area within a grass field. Seems to drain to the north into a drainage ditch/feature. However, surface contours are higher in this direction just before the edge of the ditch line.</b>		

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC06  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): concave  
 Slope (%): 2% Lat: 39.099009°W Long: -94.264552°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: PEM1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil , or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>polygonum spp.</i></u>	<u>30</u>	<u>Y</u>	<u>FAC</u>	
2. <u><i>Setaria pumila</i></u>	<u>20</u>	<u>Y</u>	<u>FAC</u>	
3. <u><i>carex spp.</i></u>	<u>40</u>	<u>Y</u>	<u>FAC</u>	
4. _____	_____	_____	<u>NI</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>90</u> = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)  
 Total Number of Dominant Species Across All Strata: 3 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 0 x 2 = 0  
 FAC species 90 x 3 = 270  
 FACU species 0 x 4 = 0  
 UPL species 0 x 5 = 0  
 Column Totals: 90 (A) 270 (B)  
 Prevalence Index = B/A = 3.00

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 \_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 \_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes  No \_\_\_\_\_

Remarks: (Include photo numbers here or on a separate sheet.)

**Area has been mowed, but a few species were identified from last years growing season.**

**SOIL**

Sampling Point: LC06

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/1	60	10YR3/6	10	c	m	Si Cl	disturbed
	10YR3/2	25						
	10YR4/2	5						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators:</b>						<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>		
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)			<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Other (Explain in Remarks)		
<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No _____		
<b>Remarks:</b>  <b>Soil appears to be disturbed. Lower horizontal clays are near the surface a inconsistencies from one soil profile to the next within a 5' radius.</b>								

**HYDROLOGY**

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Stunted or Stressed Plants (D1)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b>		<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No _____
Surface Water Present?    Yes _____ No _____	Depth (inches): _____	
Water Table Present?    Yes _____ No _____	Depth (inches): _____	
Saturation Present?    Yes _____ No _____	Depth (inches): _____	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
<b>Remarks:</b>		
<b>Area is about 0.44 acres. Low area within a grass field. Seems to drain to the south into a drainage ditch/feature.</b>		

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: LCAAP City/County: Independence, MO Sampling Date: 03/27/2019  
 Applicant/Owner: LCAAP State: MO Sampling Point: LC07  
 Investigator(s): Chris Name - USACE Section, Township, Range: S32 T50N R30W  
 Landform (hillslope, terrace, etc.): relatively flat Local relief (concave, convex, none): none  
 Slope (%): 0 Lat: 39.099118°W Long: -94.264858°N Datum: none  
 Soil Map Unit Name: \_\_\_\_\_ NWI or WWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____	

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
<u>Herb Stratum</u> (Plot size: <u>10m</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u><i>polygonum spp.</i></u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. <u><i>Setaria pumila</i></u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u><i>Sorghum halepense</i></u>	<u>50</u>	<u>Y</u>	<u>FACU</u>	
4. <u><i>Ambrosia artemisiifolia</i></u>	<u>20</u>	<u>Y</u>	<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
_____ = Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____ )	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				

**Dominance Test worksheet:**  
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)  
 Total Number of Dominant Species Across All Strata: 4 (B)  
 Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species 0 x 1 = 0  
 FACW species 0 x 2 = 0  
 FAC species 25 x 3 = 75  
 FACU species 70 x 4 = 280  
 UPL species 0 x 5 = 0  
 Column Totals: 95 (A) 355 (B)  
 Prevalence Index = B/A = 3.74

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is >50%  
 Prevalence Index is ≤3.0<sup>1</sup>  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Remarks: (Include photo numbers here or on a separate sheet.)  <b>Area has been mowed, but enough plant matter is present to determine at least 4 species.</b>	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <input checked="" type="checkbox"/>
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**SOIL**

Sampling Point: LC07

<b>Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)</b>								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-18	10YR3/1	40	10YR3/6	10	c	m	Si Cl	disturbed
	10YR3/2	40						
	10YR4/2	10						
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup> Location: PL=Pore Lining, M=Matrix.								
<b>Hydric Soil Indicators:</b>			<b>Indicators for Problematic Hydric Soils<sup>3</sup>:</b>					
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Coast Prairie Redox (A16)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Iron-Manganese Masses (F12)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Mucky Mineral (F1)					
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)					
<input type="checkbox"/> 2 cm Muck (A10)			<input checked="" type="checkbox"/> Depleted Matrix (F3)					
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Redox Depressions (F8)					
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<b>Restrictive Layer (if observed):</b>								
Type: _____								
Depth (inches): _____						<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								
<b>Soils are inconsistent, multiple profiles were taken.</b>								

**HYDROLOGY**

<b>Wetland Hydrology Indicators:</b>		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	
<b>Field Observations:</b>		
Surface Water Present?    Yes _____ No _____	Depth (inches): _____	
Water Table Present?    Yes _____ No _____	Depth (inches): _____	
Saturation Present?    Yes _____ No _____	Depth (inches): _____	
(includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

**APPENDIX IV  
RECORD OF NON-  
APPLICABILITY**

**Record of Non-Applicability  
Concerning the General Conformity Rule (40 CFR Part 51)**

**Name of Project:** Next Generation Squad Weapons Facility

**Location:** Jackson County, Missouri

Lake City Army Ammunition Plant (LCAAP) proposes to construct and operate a next generation squad weapons (NGSW) facility on site. The purpose of the proposed project is to manufacture and produce a new 6.8mm general purpose and special purpose ammunition at LCAAP. The construction and operation of the NGSW facility is not expected to result in any reasonably foreseeable direct or indirect Sulfur Dioxide emissions.

Army guidance dictates that a Record of Non-Applicability be prepared for Federal Actions where proposed emissions are clearly *de minimis* in order to comply with the General Conformity Rule (40 Code of Federal Regulations [CFR] 51, Subpart W) and the National Environmental Policy Act (NEPA) (42 United States Code [USC] 4231 et seq.). Based on a review of the Environmental Assessment and Draft Finding of No Significant Impact for the NGSW Facility Project dated June 2019, it states that the Federal action to construct a NGSW facility will not trigger the General Conformity Rule.



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Sara Clark  
Environmental Coordinator  
Lake City Army Ammunition Plant

8-29-19

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Date