

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CENTRAL REGION

**MEDICINE LODGE MUNICIPAL AIRPORT
BARBER COUNTY, KANSAS**

AIP No. 3-20-0098-011-2020

**DRAFT
ENVIRONMENTAL ASSESSMENT (EA)
FOR**

**Land Easement
Construct Runway 18/36
And other work as described in the EA**

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This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible Federal Aviation Administration (FAA) Official.

Responsible FAA Official

Date

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1.0 Purpose and Need

1.1 Introduction

The City of Medicine Lodge conducted an Environmental Assessment (EA) and the FAA issued a Finding of No Significant Impact (FONSI)/Record of Decision (ROD) on August 9, 2013 evaluating the environmental and social impacts of the following Proposed Action:

1. Decommission and abandon northeast-southwest Turf Runway 1-19;
2. Decommission and abandon north-south Paved Runway 16-34;
3. Construct a new Runway 18-36 (3,200' x 60') with aircraft turnarounds at each threshold to replace Runway 16-34 and meet ARC B-I standards;
4. Acquire a 12 acre easement to the north of the airport to control the future Runway 18 Runway Protection Zone (RPZ);
5. Acquire 12 acres of land in fee simple to the south of the airport to control the future Runway 36 RPZ;
6. Retain northwest-southeast Turf Runway 13-31 and shorten to 1,555 feet; widen to 120 feet to meet Object Free Area (OFA) standards;
7. Acquire eight (8) acres of land in fee simple to the southeast of the airport to control the turf Runway 31 RPZ and runway Object Free Area (OFA);
8. Acquire seven (7) acre easement to the northwest of the airport to control the turf Runway 13 RPZ;
9. Abandon current terminal area and relocate facilities to the east and northeast of proposed Runway 18-36 to meet Runway Safety Area (RSA) and OFA standards;
10. Construct new airport access road to the northeast of the airport providing access to/from U.S. Highway 160 and acquire three (3) acres of land in fee simple;
11. Install Precision Approach Path Indicators (PAPI) and Runway End Identifier Lights (REIL) for Runways 18 & 36;
12. Provide new Instrument Approach Procedures—RNAV (GPS) for Runways 18 & 36; and
13. Remove obstructions to comply with FAR Part 77 airspace surfaces, as well as proposed runway safety areas (RSA) and object free areas (OFA).

As this EA was conducted nearly 10-years ago, with only relatively minor progress being made toward completion of the proposed actions, the FAA determined that a new EA was needed in-order to evaluate any new proposed changes to the proposed action against any possible changes to the environment and current standards pursuant to the National Environmental Policy Act (NEPA) and the Federal Aviation Administration (FAA) regulations and guidelines for NEPA environmental impact assessment and documentation. Applicable FAA regulations and guidelines are found in FAA Order 5050.4B: *NEPA Implementing Instructions for Airport Actions*, FAA Order 1050.1F: *Environmental Impacts – Policies and Procedures*, and categories outlined in the FAA *Environmental Desk Reference for Airport Actions*

The City of Medicine Lodge, Kansas, has a population of approximately 1,725 people and is the county seat of Barber County, Kansas. The Airport is located approximately two miles east of the City. The Public

Land Survey System (PLSS) for the Airport is the SW quadrant of Section 8 and the NW quadrant of Section 17, Township 89 North, Range 6 East, in Barber County. According to the National Plan of Integrated Airport Systems (NPIAS) published on September 30, 2020, Medicine Lodge Municipal Airport is a local/basic airport. It is anticipated that this role will not change. The Kansas Statewide System Plan classifies Medicine Lodge Municipal Airport as General Aviation. The current Airport Layout Plan (ALP) dated December 16, 2020, shows an Airport Reference Code (ARC) of an A-I (small aircraft only) for the current condition, and a B-I (small aircraft only) for the ultimate condition. An Airport Layout Plan (ALP) serves as a critical planning tool that depicts both existing facilities and planned development for an airport. The City is responsible for the maintenance and operation of the Airport in accordance with FAA standards and agreements. They must accomplish this by planning for airport improvements in accordance with an FAA-approved ALP. By definition, the ALP is a plan for an airport that shows: boundaries and proposed additions to all areas owned or controlled by the sponsor for airport purposes; the location and nature of existing and proposed airport facilities and structures; and the location on the airport of existing and proposed non-aviation areas and improvements thereon.

The Airport Reference Code is an airport designation that signifies the airport's highest Runway Design Code (RDC). The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport. It is determined through the ALP development phases utilizing FAA forecasting models and current and future aircraft usage. As previously mentioned, the ultimate ARC for Medicine Lodge is a B-I small airplanes.

The letter A represent a group of aircraft that have approach speeds of less than 91 knots. The letter B represents a group of aircraft that have approach speeds of 91 knots or more but less than 121 knots. The numeral I represents a group of aircraft with tail less than 20' and wingspans less than 49'.

The B-I small airplanes represent single engine piston, small twin-engine piston, and twin turbo prop aircraft weighing less than 12,500 lbs. such as the King Air 90.

The Airport is publicly owned and operated by the City of Medicine Lodge, Kansas. The City is responsible for the maintenance and operation of the Airport in accordance with FAA standards and agreements.

The Medicine Lodge Municipal Airport is situated on 98 acres of land approximately two miles northwest of the City's central business district. Access to the Airport is provided via an access road from US Highway 160. The Airport has an Airport Reference Point (ARP) elevation of 1,496 feet above mean sea level. The surrounding land is used primarily for pasture with a small number of privately owned residential and commercial properties. The Indian Peace Treaty Land and Memorial Peace Park are located directly west of the Airport. The Airport and surrounding study area are shown in Figure 1 in Section 3.2 of this document.

The Medicine Lodge Municipal Airport Runway 16/34 is an asphalt runway 3,200 feet long and 42 feet wide. The Airport has one apron which covers approximately 11,600 square feet. The apron is connected by a 25-foot-wide asphalt taxiway to Runway 16. The apron and the taxiway were constructed in 2017 and designed to accommodate the future Runway End 18. The Airport currently has a 2-place nested t-hangar with additional future hangars identified on the ALP. There is no fuel currently available at the airport. However, the ALP identifies this as a future improvement.

1.2 Purpose and Need

The purpose of the Proposed Actions is to upgrade Medicine Lodge Municipal Airport to be able to accommodate the airport's ultimate critical aircraft that is the twin-engine Beechcraft G58 Baron. This ultimate aircraft requires the airport to have an ARC B-1 design standard. The current runway of the airport does not meet this design standard. The forecasted air traffic of the airport, as included in the 2013 Environmental Assessment, states that Medicine Lodge Municipal Airport is the primary airport serving the residents of Medicine Lodge and Barber County. With the ultimate plan to update the runway to accommodate B-1 aircraft, the airport can also provide services to other aircraft that are not currently based out of this airport.

The need for the Proposed Actions is to safely provide for the existing and future aviation needs of the Medicine Lodge Municipal Airport, Kansas, and the surrounding communities per minimum standards for safe and efficient aircraft operations as described in FAA Advisory Circular 150/5300-13, Airport Design and the December 16, 2020, Medicine Lodge Municipal Airport Layout Plan (ALP). The ALP and the 2008 Master Plan (MP) states that there are five aircraft registrants that live in Medicine Lodge. Of these five, four base their aircraft out of the Airport. There are an additional 12 aircraft owners that live in the cities of Kiowa and Hardtner. Updating the Airport has the potential for these aircraft owners in the surrounding community to be based in Medicine Lodge Municipal Airport. The cost and travel time of using alternate modes of transportation, such as vehicles, makes aviation transportation the better option. Utilizing other airports is not an option since the closest one with the same capabilities and capacity as that of Medicine Lodge is 35 miles away. These two services were looked at when considering the Proposed Actions. The requirements to be satisfied are more specifically described below under Proposed Actions.

Proposed Actions:

- Remove obstructions to comply with FAR Part 77 airspace surfaces as well as proposed Runway Safety Areas (RSA) and Object Free Areas (OFA)
- Rehabilitate Runway 16/34
- Acquire approximately 31.6 acres for an Automated Weather Observing System (AWOS) easement
- Decommission and abandon north-south paved Runway 16/34;
- Abandon current terminal area and relocate facilities to the east and northwest of proposed Runway 18/36 to meet RSA and OFA standards;
- Construct a new Runway 18/36 (3,200' x 60') with aircraft turnarounds at each threshold to replace Runway 16/34 and meet Airport Reference Code (ARC) B-I standards, including airfield lighting
- Install Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) for Runway 18/36
- Develop new instrument approach procedures for Runway 18/36 RNAV (GPS)
- Decommission and abandon turf crosswind Runway 13/31

2.0 Alternatives

2.1 Introduction

This EA documents the environmental impact of alternatives for the Medicine Lodge Municipal Airport. Alternatives are presented to address the needs stated in the previous section and evaluated based on their cost, feasibility, and environmental impact. Each alternative was presented to the Airport Commission and a preferred alternative was chosen based on these factors as well as social and political circumstances. The Proposed Actions and Reasonable Alternatives would implement projects necessary to support the anticipated level of activity at the Airport. The No Action Alternative evaluates the impacts of choosing to not implement airport improvement projects at this location within the next planning cycle.

2.2 No Action Alternative

The No Action Alternative would result in continuation of operations with ongoing maintenance of the existing facilities. No new facilities would be constructed, and no existing facilities would be upgraded or expanded. The Airport would continue to operate as it operates today. However, economic and safety consequences may be greater in total cost than proper facility improvements. Economic gains can be directly tied to the availability of improved airport facilities. This alternative would not improve the safety or utility of the Airport as the proposed improvements would. The No Action Alternative does not meet the project purpose and need; however, in addition to being a Council on Environmental Quality/National Environmental Policy Act (CEQ/NEPA) requirement, it does serve as a baseline for a comparison of impacts to the preferred alternative and is therefore retained for analysis.

2.3 Reasonable Alternative #1 (Shifting the Runway South)

In order to accommodate the anticipated level of activity in the Purpose and Need, the Reasonable Alternative of shifting the runway south was considered. This would achieve adequate width and length and bring the airport up to the B-1 category. Although this alternative meets the Purpose and Need, the land acquisition and construction costs eliminated it from further consideration.

2.4 Reasonable Alternative #2 (Bring the Existing Runway up to Standards)

In order to accommodate the level of activity in the Purpose and Need, the Reasonable Alternative of bringing the existing runway 16/34 up to FAA standards and developed into a B-1 category was considered. This would achieve the adequate length and width needed to meet standards and support the anticipated increased level of traffic in the area. Although this alternative would meet the Purpose and Need, the AWOS placement and standards have guidelines that need to be followed for proper placement. Where the runway is located now and with a widening, the AWOS would not be able to be placed within land already owned by the City of Medicine Lodge. The land acquisition cost eliminated this alternative from further consideration.

2.5 Proposed Actions (Extend Runway North)

The Proposed Actions alternative involves abandoning the existing north-south Runway 16/34 (3,200' x 42') and constructing a realigned 3,200' x 60' paved runway, designated Runway 18/36. This new runway would include aircraft turnarounds at each threshold in order to meet Airport Reference Code (ARC) B-1

standards. This would also include abandoning the current terminal area and relocating the facilities to the east and northwest of the proposed Runway 18/36.

The City has acquired, through easement, 11.9 acres of land to the north and 11.4 acres south of the proposed runway to secure the Runway Protection Zone (RPZ). An easement will be acquired to the east and west of the property for the Automated Weather Observing System (AWOS) which totals 31.6 acres. The easement totals for the RPZ are 23.3 acres.

Obstructions, including trees and building, will ultimately be removed to secure the RPZ for the proposed runway.

The existing northeast-southwest turf runway will be decommissioned and abandoned due to not meeting design standards and the cost of upkeep.

In order to accommodate the ultimate critical aircraft documented in the Purpose and Need, the Proposed Actions of extending Runway 18/36 north would be completed within the current planning period of 2021-2041. It is recommended to widen and extend Runway 18/36 to the north to safely accommodate current and future itinerant aircraft at the Airport. These Proposed Actions have also been designed around not adversely affecting Memorial Peace Park that is located directly west of the Airport.

The Preferred Alternative is to acquire an AWOS easement, remove obstructions, and build capital projects as described under the Proposed Actions (Section 2.5) and as shown on the approved 12/16/20 ALP to meet minimum FAA airport design standards. This alternative was selected as the Proposed Actions because this alternative best meets the purpose and need, is feasible, and results in minimal environmental impacts. This is the environmentally preferred alternative.

3.0 Affected Environment

3.1 Introduction

The Medicine Lodge Municipal Airport is situated on 98 acres of land approximately two miles southeast of the City's central business district. The predominant land use adjacent to the Airport is agricultural. The Airport can be accessed via Pageant Road and US Hwy #160.

3.2 Location Map, Vicinity Map, Airport Diagram, and Photographs

Figure 1 shows the project location map, and Figure 2 shows the proposed improvements. Figures 3 through 6 are photographs of the Airport.

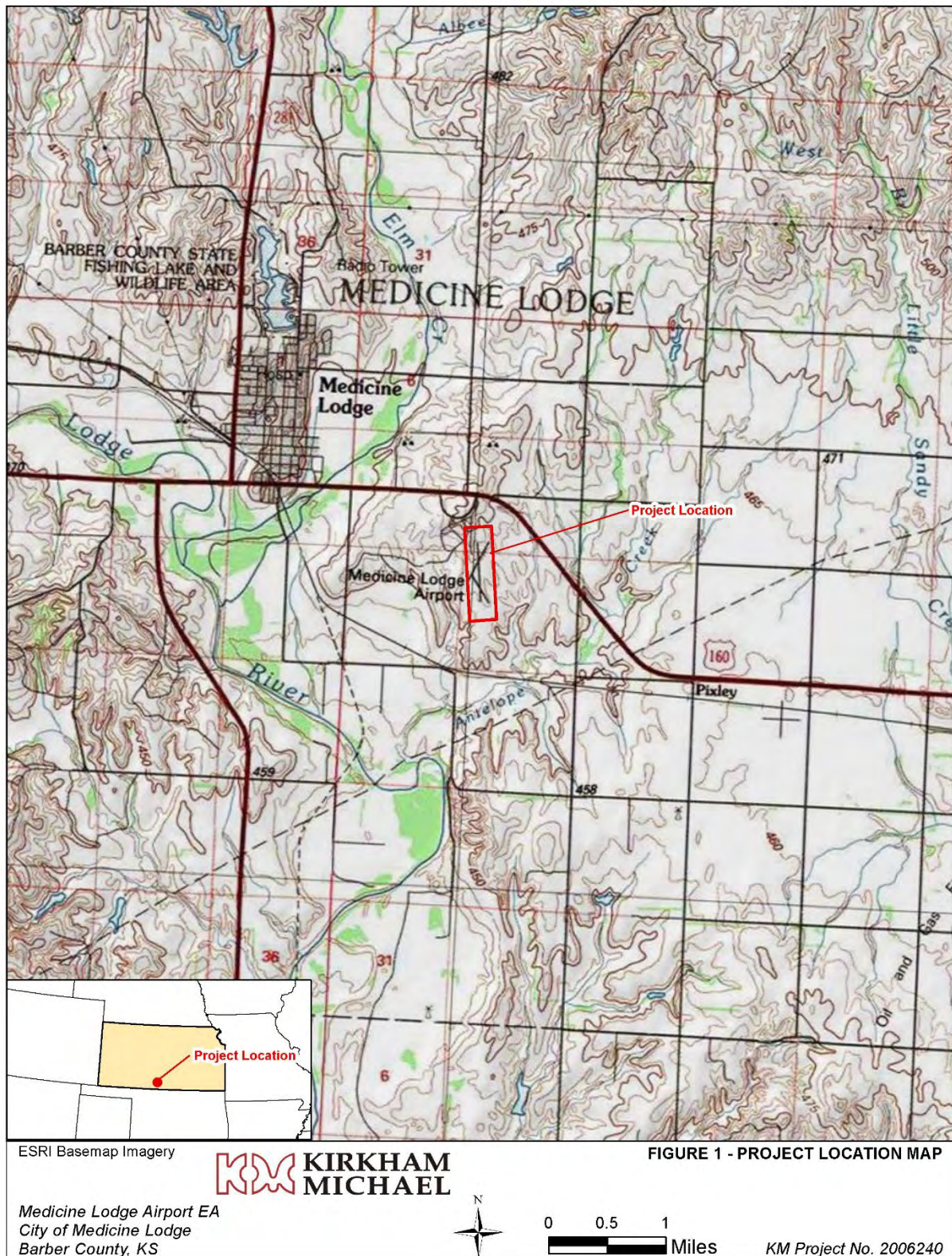


Figure 1. Project Location

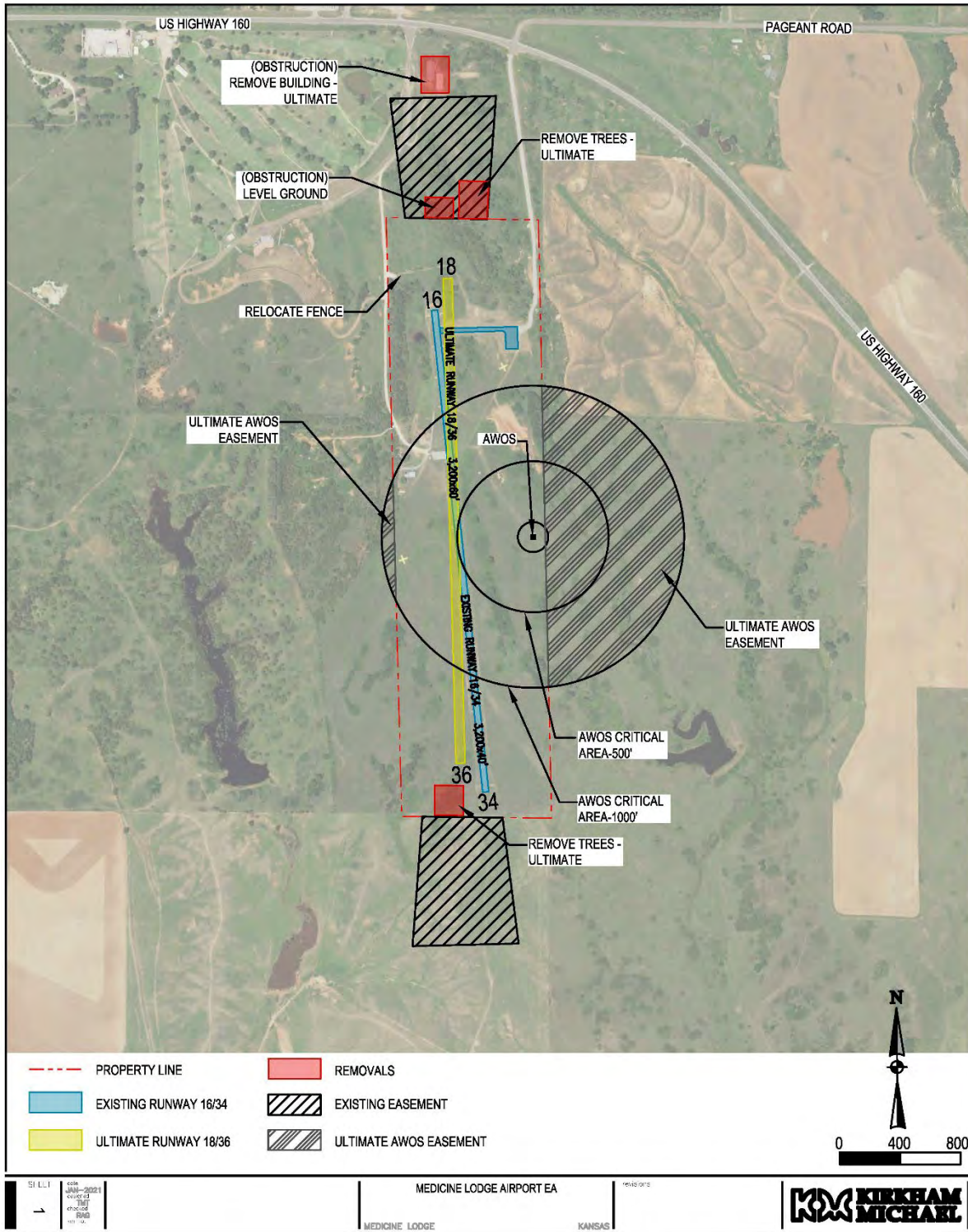


Figure 2. Proposed Improvements



Figure 3. PFOA wetland onsite



Figure 4. Surrounding area is pastureland



Figure 5. Area surrounding runway is mixed vegetation



Figure 6. Point within trees that will be removed

3.3 Existing Land Use and Zoning

The existing land use surrounding the Airport is primarily agriculture as seen in Figure 1. The area surrounding the Airport are subject to zoning and land use statutes. The Airport is located within the city limits of Medicine Lodge via an island annexation from Barber County. The majority of land use around the airport falls within zoning statues from Barber County and functions mostly as agricultural use.

It is recommended that FAR Part 77 “Objects Affecting Navigable Airspace” be adopted by the City of Medicine Lodge and Barber County to make sure height restrictions are employed.

To the south and east, land use is composed of primarily agricultural use. Directly to the west is the Memorial Peace Treaty Park with the Medicine Lodge Golf Course to the northwest. The surrounding farming areas are composed of primarily pasture/grazing.

Based on the forecasted activity of the Airport, no incompatible land uses are within the project area.

3.3.1 Industrial/Commercial Activities

A small number of privately-owned commercial properties are located approximately within one mile of the Airport to the north, outside the city limits of Medicine Lodge. No existing or planned commercial or industrial properties occur in the area of the Medicine Lodge Municipal Airport.

3.3.2 Residential Areas, Schools, Churches, and Hospitals

The Medicine Lodge Municipal Airport is located in an area of Barber County that is predominately rural. Pasture/grazing purposes is the primary land use surrounding the Airport. There are a small number of privately-owned farmsteads and single-family residences within the vicinity of the Airport. However, most residents of Barber County reside within the city limits of Medicine Lodge approximately 1-2 miles west of the Airport. There are three Community School Districts (CSD) in Barber County. The CSDs for Barber County are listed in Table 1.

Table 1: Barber County CSD.

CSD	Communities	Location
Barber County North USD 254	Medicine Lodge, Elm Mills, and Sharon	Northeast Barber County
South Barber USD 255	Kiowa	South Barber County
USD 438 Skyline Public Schools	Pratt	West and Southwest Pratt County, North Central Barber County

Source: Barber County Schools

The Barber County North USD 254 CSD is the only CSD that resides in the vicinity of the Airport. However, all schools in the Barber County North USD 254 are located within the city limits of Medicine Lodge approximately 1-2 miles west of the Airport.

There are nine churches located within the city limits of Medicine Lodge approximately two miles west of the Airport. There are two churches located just outside the city limits of Medicine Lodge located approximately 1.5 miles north of the Airport. There is one church within the city limits of Sharon, located approximately seven miles east of the Airport.

The Medicine Lodge Memorial Hospital is the closest hospital to the Airport but is located within the city limits of Medicine Lodge, approximately two miles northwest of the Airport.

No residential areas, schools, churches, or hospitals occur in the area of the Proposed Actions.

3.3.3 Publicly-owned Parks, Recreational Areas, and Wildlife & Waterfowl Refuges

Memorial Peace Park is located directly west of the Airport. The Proposed Actions have been designed to not adversely affect Memorial Peace Park. Another park is found within the city limits of Medicine Lodge. One wildlife area is also found within the city limits of Medicine Lodge. All recreational areas found within the vicinity of the Airport are listed in Table 2 and shown on Figure 7.

Table 2: Recreational Areas Occurring in Vicinity of Airport.

Name	Area	Facilities	Distance from Airport
Memorial Peace Park	180 acres	Recreational	500 feet
Medicine Lodge City Park	19 acres	Camping, Recreational	1.5 miles
Barber State Fishing Lake and Wildlife Area	190 acres	Camping, Recreational, Nature Center	2.5 miles
Medicine Lodge Golf Club	52 acres	Golf and Driving Range	0.3 miles

Source: Barber County Parks

There are no Wildlife Refuge Areas found within Barber County.

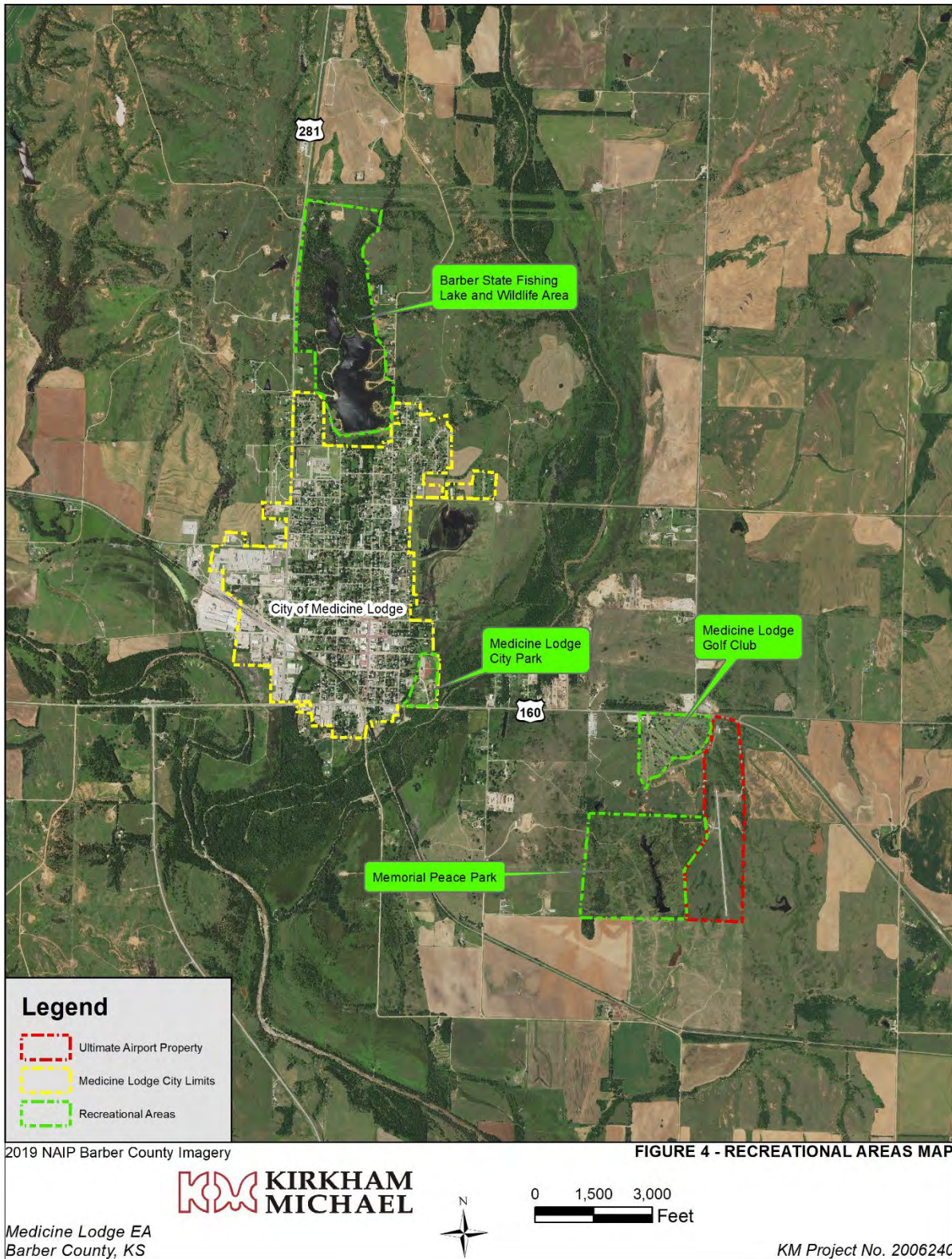


Figure 7. Recreational Areas

3.3.4 National/State Forests, Wilderness Areas, Wild & Scenic Rivers, Nationwide Rivers Inventory

Kansas’s forest system consists of 3.8 million acres of forest, which 95% are privately owned. However, no designated State Forests occur in the area of the Proposed Actions.

There are multiple wilderness areas around the state of Kansas, but none are in the vicinity of the Proposed Actions.

Kansas has approximately 133,956 miles of river, but none are designated as Wild & Scenic Rivers.

Kansas has twenty-one rivers classified in the Nationwide Rivers Inventory (NRI). However, no rivers classified in the NRI are within the immediate vicinity of the Proposed Actions. One river is within 1.5 miles of the Airport.

3.3.5 Federally-listed/State-listed Threatened & Endangered Species/Habitat

One species was identified as federally endangered and may occur within the area of the Proposed Actions. This species is the Whooping Crane.

This species does not have critical habitat located near or within the Proposed Actions.

3.3.6 Wetlands, Floodplains, Floodways, Coastal Zones, and Coastal Barriers

The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) identified one wetland located within existing Airport property and properties proposed for acquisition. An unnamed Tributary of Antelope Creek flowing south on the eastern boundary is denoted by NWI as Riverine-Intermittent Streambed, Temporary Flooded (R4SBA). No additional wetlands were identified.

Kirkham, Michael and Associates, Inc. (Kirkham Michael) conducted the field investigation in October of 2020 to determine the presence and location of any wetland areas or Waters of the United States (WOTUS). The wetland delineation report was submitted to the U.S. Army Corps of Engineers (USACE) for an Approved Jurisdictional Determination with the findings displayed in Table 3. A response from USACE was received on April 15, 2021, with the Approved Jurisdictional Determination. See Appendix F for the Wetland Delineation Report.

Table 3: Wetland Habitats Occurring in the Vicinity of Airport.

Site Number	Type	Location	Estimated Amount of Aquatic Resource in the Area of Potential Effect
R-1	Wetland – Forested	West of runway near north end	0.0571 acres
R-7	Wetland – Forested	East of runway near eastern boundary	0.1272 acres

Source: U.S. Army Corps of Engineers NWK-2021-00177

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 200015 0025 B has an effective date of July 3, 1990, and shows that no floodplains occur within the vicinity of the Proposed Actions.

Coastal resources include the coastlines of the Atlantic and Pacific Oceans, the Great Lakes, and the Gulf of Mexico, none of which are present in the state of Kansas.

3.3.7 Historic, Archeological, or Cultural Resources

A historic property is any prehistoric or historic district, site, building, structure, or object included in or eligible for inclusion in the National Register of Historic Places (NRHP). Section 106 of the National Historic Preservation Act (NHPA), as implemented through 36 CFR Part 800, is intended to require federal agencies to consider the effects of their undertakings on historic properties. In doing so, the FAA must consult with the State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Officer (THPO) if one exists. The regulations protecting historic and cultural properties also require consultation and information exchanges with interested parties (FAA 2007).

After defining the project area, the NRHP was reviewed to determine if properties already listed in the NRHP occur in the area. This process failed to identify any NRHP eligible or NRHP listed properties within either the existing Airport's property or the land proposed for acquisition. The Kansas State Historic Preservation Office has reviewed the project and has no objection.

A Phase 1 Archeological Survey was requested by the Osage Nation on April 6, 2021, due to the proximity of Memorial Peace Park. All areas within the project limits where ground disturbance, land acquisition, or vegetation removal would take place were tested.

3.4 Affected Political Jurisdiction

Medicine Lodge Municipal Airport is a publicly owned and operated airport that serves Barber County and the City of Medicine Lodge. The Airport is operated by the Medicine Lodge City Council. The City of Medicine Lodge, Kansas, is responsible for the maintenance and operation of the Airport in accordance with FAA standards and agreements.

3.5 Demographic Information

The Medicine Lodge Municipal Airport is located in an area of Barber County that is predominately rural. Pasture and grazing surround the Airport on the east, north and south sides. To the west of the Airport is Memorial Peace Park and Medicine Lodge Golf Club. The most proximate population center is the City of Medicine Lodge. Population trends served by an airport affect aviation activity trends. The population of Medicine Lodge decreased between the years 2017 to 2018 and is expected to increase over the next 20 years at a rate of 0.5%. Table 4 contains a summary of demographic information by racial and ethnic composition for the Project Area. The data were obtained from the 2018 and 2019 United States Census Annual Estimates.

Table 4: Population and Demographics for Barber County, Kansas

Entity	Population							
	By Race						By Ethnicity	
US Census Bureau Categories	White	African American	Asian	American Indian/ Alaska Native	Native Hawaiian/ Pacific Islander	Two or More	Hispanic or Latino	Non-Hispanic or Latino
Medicine Lodge	1,830	14	22	0	0	9	156	1,875
Barber County	4,215	44	22	62	0	84	208	4,219
Kansas	2,514,190	177,712	93,226	34,960	2,913	90,313	355,424	2,557,890

Source: United States Census Bureau Quickfacts

The FAA must evaluate a proposed airport project to determine the project's potential to cause induced or secondary socioeconomic impacts on surrounding communities (FAA 2007).

3.6 Past, Present, and Reasonably Foreseeable Future Actions

A cumulative impact is the impact on the environment which results from the incremental impact of the Proposed Actions when added to other past, present, and reasonably foreseeable future projects. For the purpose of considering potential cumulative impacts in this EA, no past, present, or reasonably foreseeable actions on or in the vicinity of the Airport have occurred.

4.0 Environmental Consequences and Mitigation

4.1 Introduction

This Section provides a description of the relevant baseline human, physical, and natural environment resources that may be affected by the Proposed Actions or Alternatives. All environmental impact categories in FAA Order 5050.4B: *NEPA Implementing Instructions for Airport Actions*, FAA Order 1050.1F: *Environmental Impacts – Policies and Procedures*, and categories outlined in FAA’s *Environmental Desk Reference for Airport Actions* were considered for applicability in defining and establishing the affected environment that could be impacted by airport related activity.

This evaluation revealed that some resource areas are either not present or would not be measurably impacted by the Proposed Actions at the Medicine Lodge Municipal Airport. Those resources that were determined not present or not measurably impacted by the Proposed Actions are discussed in Section 4.2 along with a brief explanation of the basis upon which this determination was made. Resources that may be present and could be affected by the Proposed Actions are discussed in Section 4.3.

4.2 Resources Not Affected

4.2.1 Air Quality

Pursuant to the Clean Air Act (CAA), the United States Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for seven common air pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM) for both PM₁₀ and PM_{2.5}, and sulfur dioxide (SO₂). Compliance with the NAAQS means the ambient outdoor levels of these

“criteria” air pollutants are safe for human health, the public welfare, and the environment (FAA 2007).

The EPA shares authority to enforce the NAAQS with individual states. In the state of Kansas, the Kansas Department of Health and Environment is the state agency charged with monitoring air quality and demonstrating compliance with NAAQS. The EPA evaluates ambient monitoring data from states and agency monitors and derives criteria pollutant design values which are statistics that describe the air quality status of a given location relative to the level of the NAAQS. Areas where monitored ambient air concentrations or design values are within an applicable NAAQS are considered in *attainment*. Areas where monitored ambient air concentrations exceed the NAAQS are designated by the EPA as *nonattainment* areas. Lastly, areas that have historically violated the NAAQS, but have since instituted controls and programs that have successfully remedied these violations, are known as *maintenance* areas.

The Proposed Actions will not have an impact on this resource except for temporary construction related impacts. The Airport is located in an attainment area; therefore, a conformity determination is not required. An Air Quality Assessment is not required because the Proposed Actions are not anticipated to increase the number of aviation or ground surface operations.

4.2.2 Climate

The Proposed Actions will not have a significant impact on the resource. For airports with relatively limited operations, there are no regulatory requirements covering greenhouse gas (GHG) emissions. Of the parameters identified, the most applicable GHG emission relative to the airport would be carbon dioxide through the burning of fossil fuels. The Proposed Actions and alternatives would not increase GHG emissions compared to the No Action Alternative.

4.2.3 Coastal Resources

Coastal resources include the coastlines of the Atlantic and Pacific Oceans, the Great Lakes, and the Gulf of Mexico. There are no coastal areas within Kansas.

4.2.4 Department of Transportation Act, Section 4(f)

Section 4(f) of the *Department of Transportation Act* provides protection for publicly-owned parks, recreational areas, wildlife, and waterfowl refuges; and significant historic sites or properties listed on or eligible for listing on the National Register. The term “Section 4(f) resource” refers to any specific site or property meeting the Department of Transportation (DOT) Act criteria. Restrictions exist on FAA approval of a transportation program or project requiring the use of publicly owned land of a park, recreational area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (FAA 2007). Through coordination with the Kansas Department of Wildlife & Parks (KDWPT), no Section 4(f) resources have been identified within the vicinity of the Project Area.

4.2.5 Natural Resource and Energy Supply

Airport development actions have the potential to change energy requirements by consuming natural resources. To comply with the applicable Council on Environmental Quality (CEQ) regulations, FAA environmental documents must evaluate potential impacts on supplies of energy and natural resources needed to build and maintain airports. FAA policy supports developments displaying environmental sustainability (FAA 2007).

Development of the Proposed Actions at the Airport will not deplete the supply of natural resources in the

area by any significant amount. Losses due to the construction of the Proposed Actions will include the manpower, fuel, and the building materials used. The only natural resources in the area to be used in the construction will be the limestone used in the paving materials. There are a number of quarries in the area which will be able to supply this without significantly depleting their available resources.

4.2.6 Noise and Noise-Compatible Land Use

Airport development actions that change airport runway configurations, aircraft operations and movements, aircraft types using the airport, or aircraft flight characteristics may affect existing and future noise levels. FAA noise analysis primarily focuses on how proposed airport actions would change the cumulative noise exposure of individuals to aircraft noise in areas surrounding the airport (FAA 2007).

No noise analysis is needed for projects involving Design Group I and II airplanes (wingspan less than 79 feet) in Approach Categories A through D (landing speed less than 166 knots) operating at airports whose forecast operations in the period covered by the NEPA document do not exceed 90,000 annual propeller operations (247 average daily operations) or 700 annual jet operations (2 average daily operations). These numbers of propeller and jet operations result in Day Night Equivalent Sound Level (DNL) 60 dB contours of less than 1.1 square miles that extend no more than 12,500 feet from start of takeoff roll. The DNL 65 dB contour areas would be 0.5 square mile or less and extend no more than 10,000 feet from start of takeoff roll. The numbers of existing and forecasted operations at the airport are far below these thresholds, therefore, no noise analysis is required.¹

4.2.7 Visual Effects

Airport-related lighting facilities and activities could visually affect surrounding residents and other nearby light-sensitive areas such as homes, parks, or recreational areas (FAA 2007). Light sensitive areas are not present at the existing Airport or within the land anticipated to be acquired by the Airport. Surrounding areas will not be impacted by the removal of trees and buildings or by the proposed realignment of the runway due to where these activities will occur.

4.3 Resources Affected

4.3.1 Biological Resources and Threatened & Endangered Species

Biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. Based on a review of available literature, online data sources, and agency correspondence, a total of six federally listed species have been known to occur within Barber County. There are also 12 state-listed species known to occur within Barber County, but of these, only seven have the possibility of occurring within the project vicinity. The Proposed Actions at the Medicine Lodge Municipal Airport may potentially affect species and habitats protected under the Endangered Species Act (ESA).

The Significance Threshold in FAA Order 1050.1F states that *“the U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species or would result in the destruction or*

¹ Medicine Lodge Municipal Airport Forecast Whitepaper, 2013

adverse modification of federally designated critical habitat.” There is no significance threshold for non-listed species.

The species identified in Table 5 are federally and state listed and may occur within the area of the Proposed Actions. The Bald Eagle is not of particular concern in the area, however, warrants attention due to its protection under the Bald and Golden Eagle Protection Act. Although it is important to avoid and minimize impacts to all birds, efforts shall be made to avoid and minimize impacts to eagles, a species that is particularly vulnerable to development activities. The Harris’s Sparrow and Lesser Yellowlegs are on the USFWS Birds of Conservation Concern (BCC) list. These species breed elsewhere and are not likely to be within the range of the project.

In a response to a request for Environmental Review for Natural Resources such as protected species, rare natural communities, state lands and waters including state parks, preserves, recreation areas, fisheries, and wildlife in the project area, the USFWS found no site-specific records that would be impacted by the Proposed Actions.

Table 5: Potential Species Occurring in the Vicinity of Airport.

Scientific Name	Common Name	Status	Listed	Habitat	Habitat Existing	Effect
<i>Grus americana</i>	Whooping Crane	Endangered	Federal/ State	Wetlands with low, sparse vegetation	None	No Effect
<i>Haliaeetus leucocephalus</i>	Bald Eagle	Protected	Federal/ State	Trees near large lakes, reservoirs, and rivers	None	No Effect
<i>Zonotrichia querula</i>	Harris’s Sparrow	Protected	Federal	Hedgerows, agricultural fields, shrubby pastures, and shrubby areas near streams	None	No Effect
<i>Tringa flavipes</i>	Lesser Yellowlegs	Protected	Federal	Boreal forest and forest-tundra	None	No Effect
<i>Pseudacris streckeri</i>	Strecker’s Chorus Frog	Threatened	State	Moist woods, sand prairies, streams, swamps, and ponds	None	No Effect

Source: U.S. Fish & Wildlife Service, Kansas Ecological Services Field Office, Kansas Department of Wildlife, Parks, and Tourism

No Action Alternative: No impacts would occur to biological resources and federally or state listed threatened and endangered species/habitat.

Proposed Actions: The Proposed Actions require the removal of trees at the north and south end of Runway 16/34 to establish new RPZ and Building Restriction Line (BRL). This action will provide adequate clearance of obstructions ensuring safer operations at the Airport.

Mitigation: The KDWPT recommends avoiding ground disturbance from March 1 to April 31, as this is critical spawning period of the Strecker’s Chorus Frog. Tree removal should take place outside the Bald Eagle breeding season of October 15 to July 15 to minimize impacts. To protect migratory bird species,

tree removal shall not be conducted from April 1st to September 30th. With seasonal restrictions on tree and brush removal, significant impacts to these resources is not anticipated.

4.3.2 Farmlands

According to the Farmland Protection Policy Act (FPPA), the United States Department of Agriculture (USDA) has developed criteria under which the environmental impacts and the conversion of farmland to non-agricultural uses can be assessed. This process is used to analyze alternatives for the proposed development to ensure that consideration is given to the preservation of agricultural lands.

According to a preliminary review using digital soil survey maps of the Project Area, approximately 95 percent of the land adjacent to the Airport is farmland. To mitigate the negative impact of removing farmland from production, only the minimum amount of farmland, as dictated by FAA standards, is proposed for acquisition and removal from agricultural production.

The Significance Threshold for farmlands states “*the total combined score on Form AD-1006, ‘Farmland Conversion Impact Rating,’ ranges between 200-260 points.*”

A web soil survey map, from the USDA, of prime farmland classifications indicated the Proposed Actions would affect prime or unique farmlands located in the Project Area. The web soil survey map can be seen in Appendix F. The USDA was contacted in February and December to comment on this project. No response has been received.

No Action Alternative: No impacts would occur to farmlands.

Proposed Actions: Unique or Prime farmland is found within the project area. No response has been heard from the USDA, but significant impacts are not anticipated.

Mitigation: None required.

4.3.3 Hazardous Materials, Solid Waste, and Pollution Prevention

Construction, renovation, or demolition of most airside projects produces debris such as dirt, concrete, and asphalt that shall be properly disposed. In addition, new or renovated terminal, cargo, or maintenance facilities may involve construction, renovation, or demolition that produces other types of solid waste. Therefore, airport sponsors shall follow federal, state, or local regulations that address solid waste. Doing so reduces the environmental effects of airport-related construction or operation (FAA 2007). The appropriate disposal of construction or demolition-related solid waste at Medicine Lodge Municipal Airport is not expected to generate an amount of solid waste that would overwhelm the local waste handling facilities.

Federal, state, and local laws regulate hazardous materials use, storage, transport, or disposal. These laws may extend to past and future landowners of properties containing these materials. In addition, disrupting sites containing hazardous materials or contaminants may cause significant impacts to soil, surface water, groundwater, and air quality. Therefore, airport sponsors purchasing or developing land for airport purposes may encounter hazardous materials contamination (FAA 2007).

The FAA has not established a significance threshold for Hazardous Materials, Solid Waste, and Pollution Prevention.

No Action Alternative: No encounters would occur with hazardous materials.

Proposed Actions: The Kansas Department of Health and Environment (KDHE) Bureau of Waste Management, Bureau of Environmental Remediation, and the Brownfield Program have noted that no Superfund sites, contaminated spill sites, or known brownfield sites are within the project vicinity.

The EPA Toxic Release Inventory (TRI) Database lists one TRI facility within the city limits of Medicine Lodge, this facility being 3.5 miles from the airport. The Registry of Hazardous Waste Disposal Sites does not list any sites within Barber County. 25 EPA-regulated facilities are found within Medicine Lodge. The Proposed Action will not significantly impact this resource.

Mitigation: Any construction activity that will disturb one acre or more is required to file a National Pollutant Discharge Elimination System (NPDES) permit application for stormwater runoff resulting from construction activities. The project owner shall obtain a Notice of Intent under Construction Stormwater General Permit from KDHE- BOW- Industrial Programs Unit to discharge stormwater runoff associated with construction activities prior to commencing construction. The NPDES permit requires the implementation of a Storm Water Pollution Prevention Plan (SWPPP). It also requires use of Best Management Practices (BMP) to protect the quality of surface waters by minimizing soil erosion.

4.3.4 Historical, Architectural, Archeological, and Cultural Resources

The purpose of the historical, architectural, archeological, and cultural resource evaluation is to ensure that the Proposed Actions or Alternatives are compliant with federal, state, and local regulations that protect these resources. This includes comparing information from the state archeological survey database to the project area and verifying the appropriate affected environment, if present, is identified and assessed. This provides inventory of any historic and archaeological resources located in the vicinity of the Project Area.

The Kansas SHPO responded on March 12, 2021, that this project has been under review since 2008 and as part of that review, an archeological survey of standing structures was completed. Since no significant changes have occurred from the original documentation, their clearance stands. The Kansas SHPO has no objection to the implementation of this project.

The FAA provided consultation materials to the federally recognized tribes that have indicated an interest in this location. On December 9, 2020, the FAA sent notifications to the following ten federally recognized tribes: Arapaho Tribe of the Wind River Reservation Wyoming, Cheyenne and Arapaho Tribes of Oklahoma, Iowa Tribe of Oklahoma, United Keetoowah Band of Cherokee Indians in Oklahoma, Miami Tribe of Oklahoma, Omaha Tribe, Osage Nation, Pawnee Nation of Oklahoma, Ponca Tribe of Nebraska, and Wichita, Keechi, Waco, & Tawakonie of Oklahoma. The Pawnee Nation of Oklahoma responded requesting to be contacted if an unanticipated discovery of archaeological resources or human remains should take place during construction activity. The Osage Nation responded and requested a Cultural Resources Survey be completed as a sacred site to the Osage Nation is adjacent to the project. A copy of their response is found in Appendix B.

The FAA has not established a significance threshold for Historical, Architectural, Archeological, and Cultural Resources.

No Action Alternative: No impacts would occur to historical, architectural, archaeological, or cultural resources.

Proposed Actions: A cultural resources survey was completed in the Fall of 2021 to ensure that no historical buildings or archeological sites were found within the project vicinity. This investigation determined that

no artifacts or sites were found that had a relationship to the activities associated with the Treaty of Medicine Lodge signing. No additional works is recommended. The FAA determined and the SHPO concurred that no historic properties will be affected. There are no significant impacts expected with the Proposed Actions.

Mitigation: If historic, cultural, or archaeological resources are encountered during construction, then all work within the immediate area of the discovered resource shall stop until FAA, Kansas State Historical Preservation Office, and tribes are consulted.

4.3.5 Land Use

Land use surrounding the Medicine Lodge Municipal Airport is controlled by local zoning and is primarily agricultural row crop production. Compatible land uses surrounding the Medicine Lodge Municipal Airport minimizes the potential for conflicts and reduces the chances that land uses adversely affect safe aircraft operations. Coordination with the United States Department of the Interior (USDOI) to review the Proposed Actions impact on public lands including parks, recreational areas, and wildlife and waterfowl refuges indicated the department had no comments or concerns regarding the Proposed Actions having adverse effects to these lands. See Appendix C for City of Medicine Lodge Land Use Letter.

The FAA has not established a significance threshold for Land Use.

No Action Alternative: No impacts would occur.

Proposed Actions: The Proposed Actions will not significantly impact this resource.

Mitigation: None required

4.3.6 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

Socioeconomic impacts, environmental justice, and children's health and safety are those effects or disruptions on the human environment that are a result of the development and operations of the Proposed Actions. The FAA must evaluate proposed airport development to determine if they would cause social impacts. This analysis considers the potential of federal actions to cause disproportionate and adverse effects on low-income or minority populations. Environmental justice ensures no low-income or minority population bears a disproportionate burden of effects resulting from federal actions.

Those impacts include moving homes or businesses, dividing or disrupting established communities, changing surface transportation patterns, disrupting planned development, or creating a notable change in employment (FAA 2007). To properly apply environmental justice requirements, it is important to determine if a low-income or minority population occurs in vicinity of the Project Area.

Environmental justice does not apply because there are no impacted populations and no populations subject to relocation. The Proposed Actions will require easements of land adjacent to existing Airport property. This land is currently in agricultural pasture. The Proposed Actions are not expected to result in health or safety risks to children or any socioeconomic impacts. No relocation of homes or businesses, division or disruption of established communities, disruption of development, or change in employment is anticipated. The Proposed Actions would not result in a disproportionately high and adverse impact on children, minorities, ethnic groups, or low-income populations.

The FAA has not established a significance threshold for Socioeconomics, Environmental Justice, or Children's Health and Safety Risks.

No Action Alternative: No impacts would occur.

Proposed Actions: The Proposed Actions would have no significant impacts.

Mitigation: None required.

4.3.7 Water Resources (including Wetlands, Floodplains, Floodways, Surface Water, Groundwater, and Wild and Scenic Rivers)

Wetlands, Floodplains, and Floodways

Typically, wetlands are a specific type of land that meets specific regulatory criteria. The required criteria include hydrology, presence of hydric soil types, and the presence of hydrophytic vegetation. Jurisdictional wetlands are those wetlands that are connected to or adjacent to navigable WOTUS. The dredge and fill of jurisdictional wetlands require prior approval by the USACE. Non-jurisdictional wetlands are not connected to or adjacent to navigable WOTUS. Dredge and fill activities in non-jurisdictional wetlands do not require USACE approval but these wetlands are natural resources that FAA must assess under NEPA.

Two additional documents provide direction and instruction on assessing impacts of federal actions on wetlands. Executive Order 11990: *Protection of Wetlands* sets the standard for a federal agency action involving any wetland. The United States Department of Transportation developed and issued DOT Order 5660.1A: *Preservation of the Nation's Wetlands* to provide more guidance to DOT agencies regarding their actions in wetlands (FAA 2007).

The Significance Threshold for wetlands is: *1. Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers; 2. Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected; 3. Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety, or welfare; 4. Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands; 5. Promote development of secondary activities or services that would cause the circumstances listed above to occur; or 6. Be inconsistent with applicable state wetland strategies.*

To meet Executive Order 11988: *Floodplains* and the DOT Order 5650.2: *Floodplain Management and Protection*, all airport development actions must avoid the floodplain if a practicable alternative exists. If no practicable alternative exists, actions in a floodplain must be designed to minimize adverse impact to the floodplain's natural and beneficial values. The design must also minimize the potential risks for flood-related property loss and impacts on human safety, health, and welfare. If no practicable alternative outside the base floodplain exists, Executive Order 11988 and DOT Order 5650.2 require FAA to minimize action-induced impacts on the base floodplain and, where practicable, to restore and preserve natural and beneficial floodplain values that are adversely affected by the action.

The Significance Threshold for floodplains is: *The action would cause notable adverse impacts on natural and beneficial floodplain values.*

No Action Alternative: No impacts would occur to wetlands or floodplains.

Proposed Actions: No floodplain or floodways are found within the project area. An Approved Jurisdictional Determination was received on April 15, 2021. The proposed activity will not involve the

discharge of dredged or fill material in WOTUS. Permit authorization is not required. This resource will not be impacted.

Mitigation: None required

Surface Water and Groundwater

There are no water resources within the project area, but those of precipitation and runoff. Therefore, the FAA must evaluate project related discharges especially those having the potential to affect navigable waterways, municipal drinking water supplies, important sole source aquifers, protected groundwater supplies, wetlands, floodplains, surface water, and ground water (FAA 2007).

The Significance Threshold for surface waters is: *1. Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies; or 2. Contaminate public drinking water supply such that public health may be adversely affected.*

The Significance Threshold for groundwater is: *1. Exceed groundwater quality standards established by Federal, state, local, and tribal regulatory agencies; or 2. Contaminate an aquifer used for public water supply such that public health may be adversely affected.*

No Action Alternative: No new impervious surfaces would be created. No new stormwater facilities would be required to treat surface water runoff. No impacts would occur to water resources.

Proposed Actions: The Proposed Actions could impact water quality by increasing impervious surfaces at the Airport causing additional runoff to occur however, no adverse impacts to natural and beneficial surface waters or groundwater are anticipated.

Mitigation: Any construction activity that will disturb one acre or more is required to file a National Pollutant Discharge Elimination System (NPDES) permit application for stormwater runoff resulting from construction activities. The project owner shall obtain a Notice of Intent under Construction Stormwater General Permit from KDHE- BOW- Industrial Programs Unit to discharge stormwater runoff associated with construction activities prior to commencing construction. The NPDES permit requires the implementation of a Storm Water Pollution Prevention Plan (SWPPP). It also requires the use of Best Management Practices (BMP) to protect the quality of surface waters by minimizing soil erosion.

Wild and Scenic Rivers

Wild and scenic rivers are those rivers having remarkable scenic, recreational, geologic, fish, wildlife, historic, or cultural values. According to the National Wild and Scenic Rivers System, Kansas has approximately 133,956 miles of river but no designated wild and scenic rivers.

The FAA has not established a significance threshold for Wild and Scenic Rivers.

No Wild & Scenic Rivers occur in the area of the Proposed Actions.

Table 6. Summary of Impact Category Determinations and Mitigation

Environmental Consequences	Proposed Actions Alternative		No Action Alternative	
	Impacts	Mitigation	Impacts	Mitigation
Air Quality	None	None required	None	None
Biological Resources	Not significant	Avoid ground disturbance between March 1 - April 31. Tree removal not to occur between October 15 - July 31 and April 1-September 30.	None	None
Climate	None	None required	None	None
Coastal Resources	None	None required	None	None
Section 4(f)	None	None required	None	None
Farmlands	Not significant	None required	None	None
Hazardous Materials, Solid Waste, and Pollution Prevention	Not significant	If hazardous materials are identified, the KDHE will be contacted. Development and implementation of SWPPP. Obtain NOI from KDHE- BOW.	None	None
Historical, Architectural, Archeological, and Cultural Resources	None	Contact SHPO, FAA, and tribes if resources uncovered during construction.	None	None
Land Use	None	None required	None	None
Natural Resources and Energy Supply	None	None required	None	None
Noise and Noise Compatible Land Use	None	None required	None	None
Socioeconomic, Environmental Justice, and Children's Health	Not significant	None required	None	None
Visual Effects	Not significant	None required	None	None
Water Resources				
Wetlands	None	None required	None	None
Floodplains	None	None required	None	None
Surface Water	Not Significant	NPDES/SWPPP and NOI from KDHE-BOW	None	None
Ground Water	None	None required	None	None
Wild and Scenic Rivers	None	None required	None	None
Cumulative Impacts	None	None required	None	None

5.0 Cumulative Impact Assessment

Cumulative impacts are impacts that the Proposed Actions or Alternatives would have on a particular resource when added to impacts on that resource due to past, present, and reasonably foreseeable actions within a defined time and geographical area. Note that this range of actions includes actions FAA itself undertakes as well as those for which any other public or private entity is responsible.

There are no known past, present, or reasonably foreseeable actions occurring in the vicinity of the Project Area. Therefore, the impacts associated with the No Action Alternative or the Proposed Actions, even when considered in combination with other projects in the area, are minor and would be mitigated by meeting local, state, and federal requirements. None of the impacts, even cumulatively, represent a substantial impact that cannot be avoided or mitigated. Therefore, neither the No Action Alternative nor the Proposed Action Alternatives are expected to result in any significant cumulative impacts.

6.0 Preparers & Qualifications

Person	Firm	Role(s)	Experience
Kari Sherman	Kirkham Michael	Principal Author, NEPA	5 years
Michael Olson, P.E.	Kirkham Michael	Contributing Author	30 years
Eric Johnson	Kirkham Michael	Airport Planning, Land Use, Development	30 years
Nancy Roshone	Kirkham Michael	Technical Editor	20 years

7.0 List of Agencies/Tribes/Persons Consulted

Medicine Lodge Municipal Airport, Medicine Lodge, Barber County, KS Tribal Coordination Distribution List

Tribal Governments Contacted Directly by the Federal Aviation Administration:

Yufna Soldier Wolf, THPO
Arapaho Tribe of the Wind River Reservation Wyoming
P.O. Box 67
St. Stevens, WY 82524

Max Bear, THPO
Cheyenne and Arapaho Tribes, Oklahoma
700 Black Kettle Boulevard
Concho, OK 73022

Ms. Bobi Roush
Cultural Preservation Department Iowa Tribe of Oklahoma
335588 East 750 Road
Perkins, OK 74059

Ms. Diane Hunter
Tribal Historic Preservation Officer Miami Tribe of Oklahoma
P.O. Box 1326
Miami, OK 74355

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

Dr. Andrea Hunter, THPO
Osage Nation
627 Grandview Avenue
Pawhuska, OK 74056

Mr. Matt Reed
Tribal Historic Preservation Office Pawnee Nation of Oklahoma
P.O. Box 470
Pawnee, OK 74058

Eric Oosahwee-Vos, Historic Preservation Officer
United Keetoowan Band of Cherokee Indians of Oklahoma

P.O. Box 1425
Tahlequah, OK 74465

Mr. Shannon Wright
Tribal Historic Preservation Officer Ponca Tribe of Nebraska
P.O. Box 288
Niobrara, NE 68760

Gary McAdams, THPO
Wichita and Affiliated Tribes (Wichita, Keechi, Waco & Tawakonie), Oklahoma
P.O. Box 729
Anadarko, OK 73005

Agencies Contacted on behalf of the Federal Aviation Administration:

Federal

United States Fish and Wildlife Service (See Appendix D)
Ecological Services – Interior Region 5
2609 Anderson Avenue
Manhattan, KS 66502

Blake McLemore (See Appendix G)
National Resources Conservation Service Office
United States Department of Agriculture
800 W 3rd Avenue
Medicine Lodge, KS 67104

Jeffrey Hellerich
National Resources Conservation Services
United States Department of Agriculture
760 S Broadway Boulevard
Salina, KS 67401

Courtney Hoover
Office of Environmental Policy and Compliance
United States Department of the Interior
P.O. Box 25007 (D-108)
Denver, CO 80225

United States Army Corps of Engineers (See Appendix E)
Kansas State Regulatory Office
2710 NE Shady Creek Access Road
El Dorado, KS 67042

State

Wade Kleven
Kansas Department of Health and Environment
302 West McArtor Road
Dodge City, KS 67801-6014

Ecological Services Section
Kansas Department of Wildlife, Parks, & Tourism
512 SE 25th Avenue
Pratt, KS 67124

Cultural Resources Division
State Historical Society of Kansas
State Historic Preservation Office
6425 SW 6th Avenue
Topeka, KS 66615-1099

8.0 References

- 2020 *Medicine Lodge Municipal Airport, Barber County, Medicine Lodge, Kansas – Airport Layout Plan Update*. Prepared by Kirkham Michael.
- 2007 *Environmental Desk Reference for Airport Actions*. Federal Aviation Administration, Office of Airport Planning and Programming, Airports Planning and Environmental Division, APP-400.
- 2006 *National Environmental Policy Act Implementing Instructions for Airport Actions*, Federal Aviation Administration, Order 5050.4B
- 2016 *Kansas Statewide Aviation System Plan*. Kansas Department of Transportation Division of Aviation Topeka, Kansas 2016.
- 2020 *National Wild and Scenic River System: Kansas*.
<http://www.rivers.gov/rivers/kansas.php>
- 2019 *United States Census Bureau: Barber County and Kansas*.
<https://www.census.gov/quickfacts/fact/table/KS,barbercountykansas,US/PST045219>
- 2018 *Data USA: Medicine Lodge, KS*
<https://datausa.io/profile/geo/medicine-lodge-ks#about>
- 2020 EPA Envirofacts: Medicine Lodge, KS
<https://enviro.epa.gov/enviro/find.html?zipcode=medicine+lodge%2C+ks&x=8&y=10>
- 2020 *National Wetlands Inventory*
<https://www.fws.gov/wetlands/data/Mapper.html>
- 2020 *USDA: Web Soil Survey*
<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>
- 2015 *Environmental Impacts: Policies and Procedures*. U.S Department of Transportation, Federal Aviation Administration, Order 1050.1F
- 2020 *1050.1F Desk Reference*. Federal Aviation Administration, Office of Environment and Energy

Appendix A: Agencies/Tribes Consulted

Example of Tribal Coordination Letter



U.S. Department
of Transportation

**Federal Aviation
Administration**

Central Region
Iowa, Kansas,
Missouri, Nebraska

901 Locust
Kansas City, Missouri 64106
(816) 329-2600

December 9, 2020

CERTIFIED MAIL

<NAME> [See Attached List]

<ADDRESS>

Section 106 Consultation
Medicine Lodge Municipal Airport
Medicine Lodge, Barber County, Kansas

Dear <NAME>:

An environmental assessment (EA) is being prepared for proposed development at the Medicine Lodge Municipal Airport subject to the National Environmental Policy Act (NEPA). In conjunction with the NEPA process, the FAA intends to complete Section 106 of the National Historic Preservation Act (NHPA), as implemented through 36 CFR 800. The intent of this letter is to request your input on properties of cultural or religious significance that may be affected by the proposed project and invite you to participate in the Section 106 consultation process.

Medicine Lodge Municipal Airport, located southeast of the city, is a General Aviation airport with a 3,200-foot runway primarily serving general aviation users and agricultural spraying operators. The City of Medicine Lodge is currently planning to begin work related to obstruction removal and vegetation management and has identified additional construction needs in support of the Airport's Capital Improvement Plan. Various alternatives were considered during the initial planning process and a preferred alternative was identified. This alternative was selected because it has the lowest apparent negative impact while still addressing the issues with the current runway configuration. A Location Map and Project Map are provided as attachments.

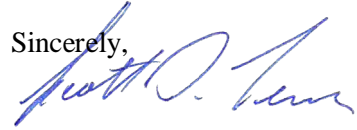
The proposed development includes the following projects:

- Remove obstructions to comply with FAR Part 77 airspace approach surfaces as well as proposed Runway Safety Areas (RSA) and Runway Protection Zones (RPZ);
- Construct a new Runway 18-36 (3,200' x 60') to replace Runway 16-34 and meet airport design standards including Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) on each end;
- Develop new instrument approach procedures;
- Easement acquisition for Automated Weather Observation System (AWOS) clear zone;
- Decommission and abandon paved Runway 16-34;
- Decommission and abandon turf crosswind Runway 13-31;
- Abandon current terminal area and relocate facilities to the northeast of proposed Runway 18-36 to meet RSA & OFA standards

The FAA is the lead federal agency for the NEPA document. Jim Johnson, Director, FAA Central Region Airports Division, will be making the final FAA decision on the environmental determination.

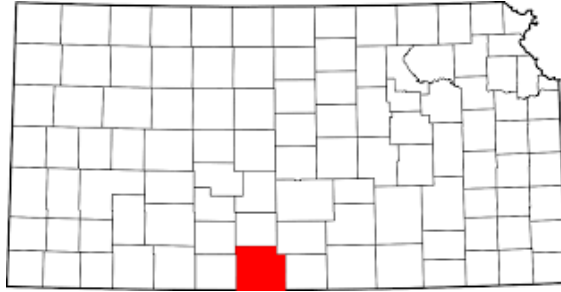
To help in our preparation of the EA, we would appreciate your input (via mail or e-mail) within thirty (30) days. If you have questions or require additional information, please contact me at 816-329-2639 or scott.tener@faa.gov.

Sincerely,

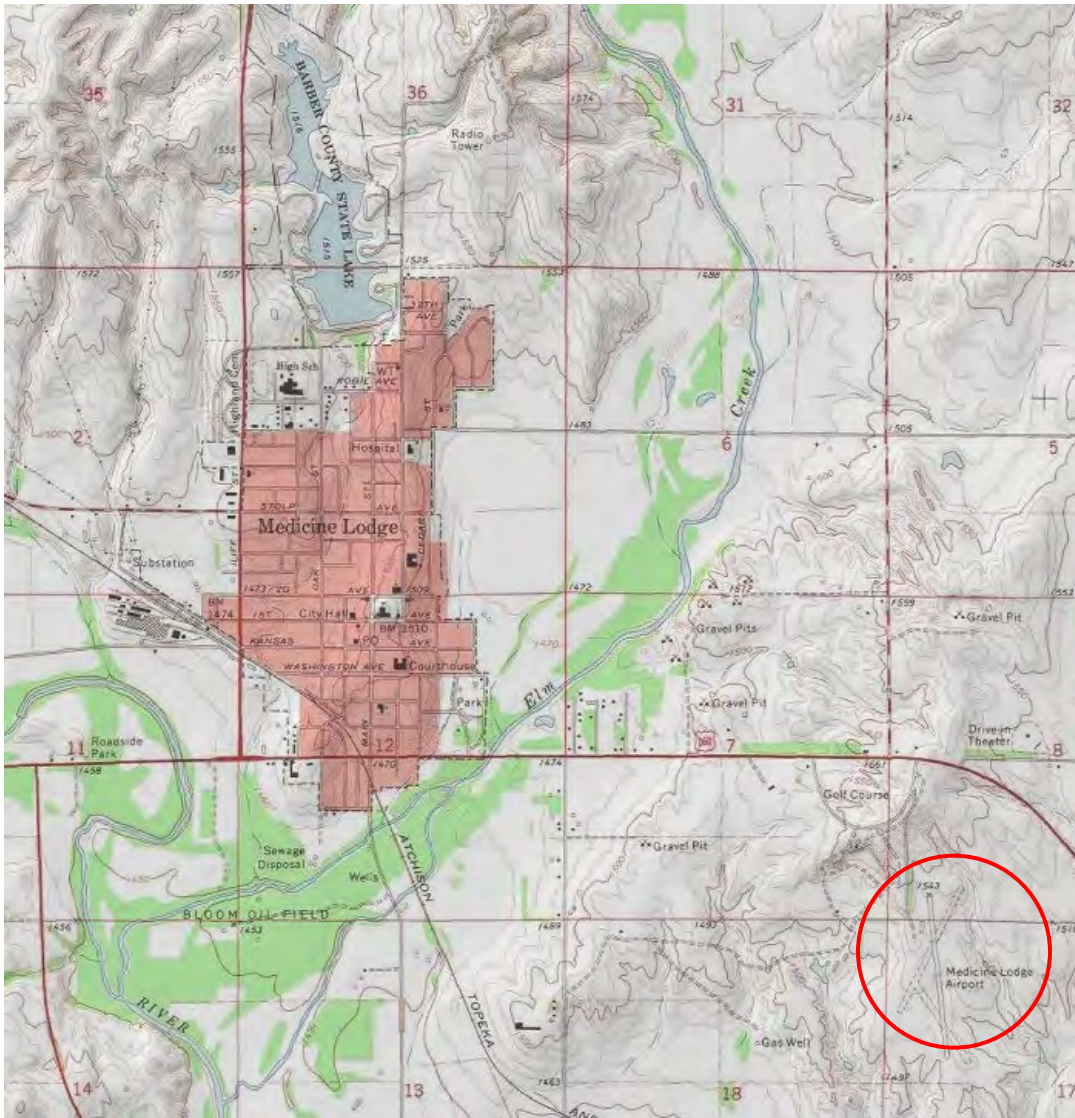
A handwritten signature in blue ink, appearing to read "Scott Tener".

Scott Tener
Environmental Specialist

Attachment (Location Map, Project Map)



Barber County, Kansas



**Medicine Lodge, Kansas
Medicine Lodge Municipal Airport**



Project Area
Medicine Lodge Municipal Airport





U.S. Department
of Transportation

**Federal Aviation
Administration**

Central Region
Iowa, Kansas,
Missouri, Nebraska

901 Locust
Kansas City, Missouri 64106
(816) 329-2600

December 15, 2021

FEDEX

Dr. Andrea Hunter
Director, THPO
Osage Nation
627 Grandview
Pawhuska, OK 74056

Section 106 Consultation
Environmental Assessment
Medicine Lodge Municipal Airport
Medicine Lodge, Barber County, Kansas
File: 2021-2837KS-12

Dear Dr. Hunter:

An environmental assessment (EA) is being prepared for proposed development at the Medicine Lodge Municipal Airport subject to the National Environmental Policy Act (NEPA). In conjunction with the NEPA process, the FAA intends to complete Section 106 of the National Historic Preservation Act (NHPA), as implemented through 36 CFR 800. The intent of this letter is to request your input on properties of cultural or religious significance that may be affected by the proposed project and invite you to participate in the Section 106 consultation process.

The City of Medicine Lodge is currently planning to begin work related to obstruction removal, vegetation management, and additional development:

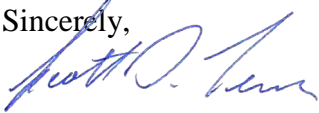
- Remove obstructions to comply with FAR Part 77 airspace approach surfaces as well as proposed Runway Safety Areas (RSA) and Runway Protection Zones (RPZ);
- Construct a new Runway 18-36 (3,200' x 60') to replace Runway 16-34 and meet airport design standards including Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) on each end;
- Develop new instrument approach procedures;
- Easement acquisition for Automated Weather Observation System (AWOS) clear zone;
- Decommission and abandon paved Runway 16-34;
- Decommission and abandon turf crosswind Runway 13-31;
- Abandon current terminal area and relocate facilities to the northeast of proposed Runway 18-36 to meet RSA & OFA standards

In response, dated April 6, 2021, to our previous correspondence, dated December 9, 2020, regarding this undertaking, you requested that a cultural resources survey be completed for this undertaking.

Please find enclosed for your review a copy of the *Phase I and Phase II Research for the Proposed Medicine Lodge Airport Improvements, Barber County, Kansas*, prepared by Rebecca A Hawkins, Algonquin Consultants, Inc., dated December 6, 2021. The survey found several isolated artifacts and small historic era artifact scatters. The survey concludes that none of the historic artifact scatters and isolated finds or the precontact era isolated find are eligible for recording as a site and none are eligible for listing in the National Register. None of the items found have any relationship to the activities associated with the Treaty of Medicine Lodge signing in 1867. No additional work is recommended for the Phase II survey area.

We request your input on properties of cultural or religious significance that may be affected by the proposed project. To help in our preparation of the EA, we would appreciate your input (via mail or e-mail) within thirty (30) days. If you have questions or require additional information, please contact me at 816-329-2639 or scott.tener@faa.gov.

Sincerely,



Scott Tener, P.E.
Environmental Specialist

Enclosures

Pawnee Nation

Tuesday, January 19, 2021

Scott Tener
Environmental Specialist
Central Region
Federal Aviation Administration
US Department of Transportation

RE: Section 106 Consultation & Review on:
Medicine Lodge Municipal Airport
Medicine Lodge, Barber County, Kansas

The Pawnee Nation Office of Historic Preservation has received the information and materials requested for our Section 1065 Review and Consultation. Consultation with the Pawnee Nation is required by Section 106 of the National Historic Preservation Act of 1966 (NHPA), and 36 CFR Part 800.

Given the information provided, you are hereby notified that the proposed project/s not adversely impact the cultural landscape of the Pawnee Nation.

However, be advised that additional undiscovered cultural properties could be encountered, and they must be immediately reported to us under both the National Historic Preservation Act (NHPA) and the Native American Graves Protection and Repatriation Act (NAGPRA) regulations.

This information is provided to assist you in complying with 36 CFR Part 800 for Section 106 Consultation procedures. Should you have questions, please do not hesitate to contact me at jreed@pawneenation.org or by phone at 918-762-2180 ext 220. Thank you for your time and consideration.

Sincerely,
Matt Reed
Historic Preservation Officer
Pawnee Nation of Oklahoma

Historic Preservation Office
Matt Reed
Phone: 918.762.2180
E-mail: jreed@pawneenation.org
P.O. Box 470
Pawnee, Oklahoma 74058

This website is recommended by ACHP: <https://egis.hud.gov/TDAT/>

Contact	Delivered (Cert Mail)	Response Returned	Action Requested
Yufna Soldier Wolf, THPO Arapaho Tribe of the Wind River Reservation Wyoming PO Box 67 St. Stevens, WY 82524	7030 12/22/20	No Response 2/26/21.	
Max Bear, THPO Cheyenne and Arapaho Tribes, Oklahoma 700 Black Kettle Blvd Concho, OK 73022	7023 12/22/20	No Response 2/26/21	
Ms. Bobi Roush Cultural Preservation Department Iowa Tribe of Oklahoma 335588 E 750 Road Perkins, OK 74059	7016 12/14/20	No Response 2/26/21	
Eric Oosahwee-Vos Historic Preservation Officer United Keetoowah Band of Cherokee Indians in Oklahoma PO Box 1425 Tahlequah, Ok 74465	7047 12/24/20	No Response 2/26/21	
Ms. Diane Hunter Tribal Historic Preservation Officer Miami Tribe of Oklahoma P.O. Box 1326 Miami, OK 74355	Email Preferred for Section 106 Consultation	No Response 2/26/21	dhunter@miamination.com
Mr. Thomas Parker Tribal Historic Preservation Officer Omaha Tribe P.O. Box 368 Macy, NE 68039	7009 12/14/20	No Response 2/26/21	
Dr. Andrea Hunter, THPO Osage Nation 627 Grandview Avenue Pawhuska, OK 74056	6996 12/15/20	Late Response 4/6/21-Request Cultural Resources Survey	4/6/21-Request Cultural Resources Survey 12/15/21-Sent requested Cultural Resources Survey. 1/11/22-No response to date.
Mr. Matt Reed Tribal Historic Preservation Office Pawnee Nation of Oklahoma P.O. Box 470 Pawnee, OK 74058	6989 12/15/20	Response 1/19/21-not adversely effect	

Mr. Shannon Wright
Tribal Historic Preservation Officer
Ponca Tribe of Nebraska
PO BOX 288
Niobrara NE 68760

6972 12/15/20	No Response 2/26/21	
6965 12/14/20	No Response 2/26/21	

Gary McAdams, THPO
Wichita and Affiliated Tribes
(Wichita, Keechi, Waco &
Tawakonie), Oklahoma
PO Box 729
Anadarko, OK 73005

February 18, 2021

Ecological Services Section
Kansas Department of Wildlife, Parks, & Tourism
512 SE 25th Ave
Pratt, KS 67124

RE: Environmental Assessment for Proposed Improvements at Medicine Lodge Municipal Airport
SW Quadrant, Section 8 & NW Quadrant, Section 17, Township 32 South, Range 11 West
KM - 2006240

To Whom It May Concern,

The City of Medicine Lodge is preparing an Environmental Assessment (EA) for proposed improvements at Medicine Lodge Municipal Airport and has retained Kirkham Michael to assist in the preparation. On behalf of the City of Medicine Lodge, we submit this request for your agency's review of the above referenced proposed improvement's impact on natural resources including threatened and endangered species, wildlife and waterfowl refuges, public lands, water quality, wetlands, and waters of the United States.

The proposed improvements include the following:

- Remove obstructions to comply with FAR Part 77 airspace surfaces as well as proposed Runway Safety Areas (RSA) and Object Free Areas (OFA)
- Rehabilitate Runway 16-34
- Acquire approximately 31.6 acres for AWOS easement
- Decommission and abandon north-south paved Runway 16-34;
- Abandon current terminal area and relocate facilities to the east and northwest of proposed Runway 18-36 to meet RSA & OFA standards;
- Construct a new Runway 18-36 (3,200' x 60') with aircraft turnarounds at each threshold; to replace Runway 16-34 and meet Airport Reference Code (ARC) B-I standards; including airfield lighting
- Install Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) for Runway 18-36
- Develop new instrument approach procedures- Runway 18-36 RNAV (GPS)
- Decommission and abandon turf crosswind runway 13-31

The EA is being prepared in accordance with the National Environmental Policy Act (NEPA), its implementing regulations 40 CFR 1500-1508, and Federal Aviation Administration (FAA) NEPA guidance including FAA order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA order 5050.4, *NEPA Implementing Instructions for Airport Projects*.

Kirkham Michael is currently collecting documentation to be addressed in the EA on any environmental



impacts to the human and natural environment at the Airport and in its vicinity attributed to implementing the proposed improvements. If your agency has information that should be considered in the EA, please provide that information to Kirkham Michael at your earliest convenience.

The Area of Potential Effect (APE) is confined to those areas that may be potentially disturbed within the existing boundary of the Airport and land acquired for the proposed improvements. Please advise us if your agency disagrees with this definition of the APE or let us know if you need any further information to complete your review of the proposed improvement's impact on natural resources.

If you need to contact us, please call 402-255-3826. Thank you for your assistance in this matter.

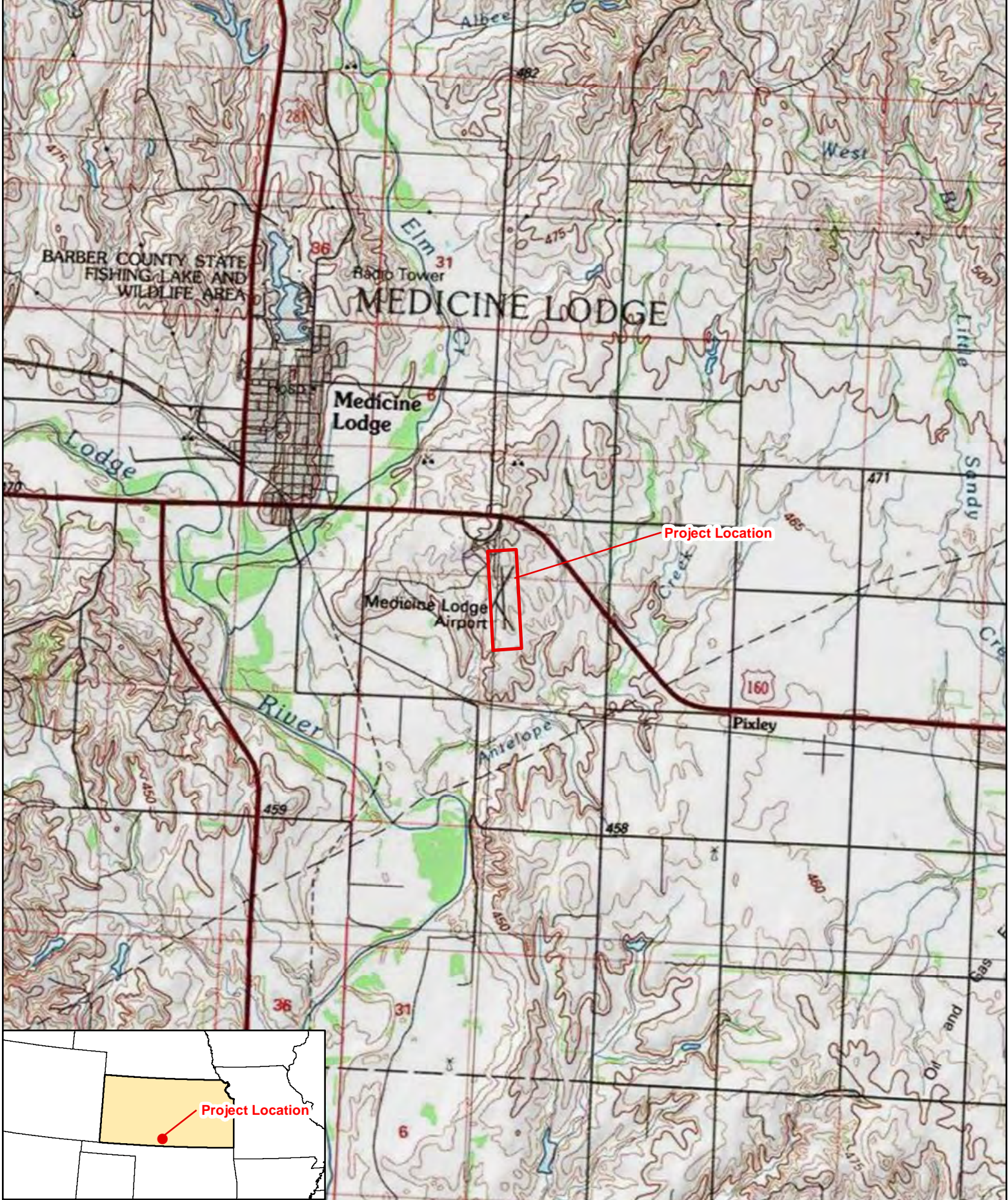
Sincerely,

KIRKHAM MICHAEL

A handwritten signature in black ink, appearing to read 'Kari Sherman'.

Kari Sherman
NEPA Specialist

Attachments: Project Location Map
Proposed Improvements Map
Area of Potential Effect Map



ESRI Basemap Imagery



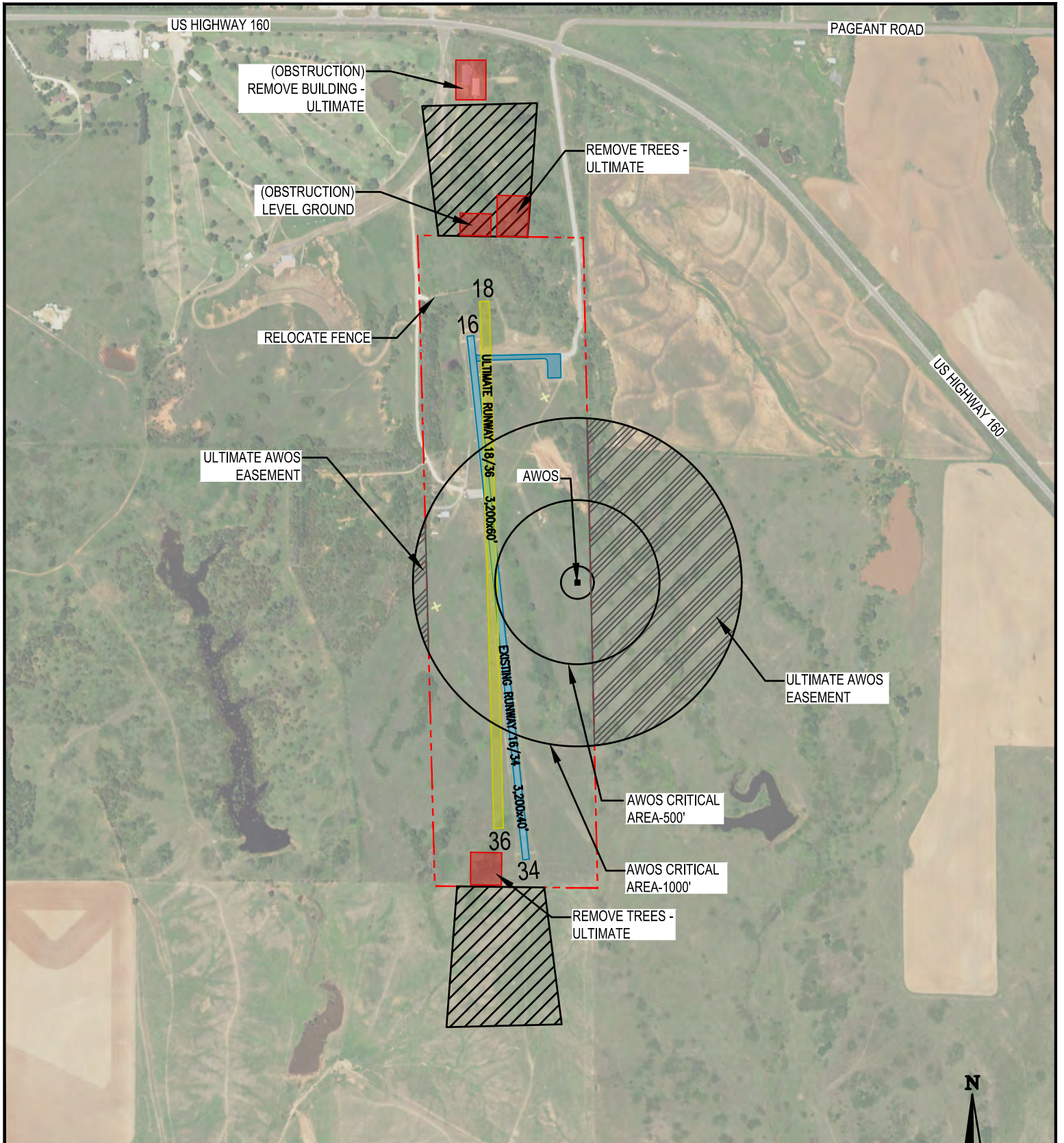
FIGURE 1 - PROJECT LOCATION MAP

Medicine Lodge Airport EA
City of Medicine Lodge
Barber County, KS



0 0.5 1
Miles

KM Project No. 2006240



- - - PROPERTY LINE
- █ EXISTING RUNWAY 16/34
- █ ULTIMATE RUNWAY 18/36
- █ REMOVALS
- ▨ EXISTING EASEMENT
- ▨ ULTIMATE AWOS EASEMENT



SHEET →
 date JAN-2021
 designed TMT
 checked RAG
 km no.

MEDICINE LODGE AIRPORT EA
 MEDICINE LODGE KANSAS

revisions





Legend


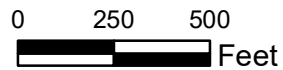
 Area of Potential Effect

FIGURE 3 - AREA OF POTENTIAL EFFECT MAP

2019 NAIP Barber County Imagery



Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 400
Topeka, KS 66612-1367



Phone: 785-296-1535
Fax: 785-559-4264
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

Comments by: KDHE

Transmittal Date: March 9, 2021

This form provides notification and the opportunity for your agency to review and comments on this proposed project as required by Executive Order 12372. Review Agency, please complete Parts II and III as appropriate and return to the contact person listed below. Your prompt response will be appreciated.

Return To: Kari Sherman, NEPA Specialist
Kirkham Michael
12700 West Dodge Road
Omaha, NE 68154-2154

PART I

REVIEW AGENCIES/COMMISSION

<input type="checkbox"/> Aging	<input type="checkbox"/> Education	<input type="checkbox"/> State Forester
<input type="checkbox"/> Agriculture	<input type="checkbox"/> Geological Survey, KS	<input type="checkbox"/> Transportation
<input type="checkbox"/> Biological Survey	<input checked="" type="checkbox"/> Health & Environment	<input type="checkbox"/> Water Office, KS
<input type="checkbox"/> Conservation Commission	<input type="checkbox"/> Historical Society	<input type="checkbox"/> Wildlife & Parks
<input type="checkbox"/> Corporation Commission	<input type="checkbox"/> Social & Rehabilitation	<input type="checkbox"/> Commerce

PART II

AGENCY REVIEW COMMENTS

COMMENTS: (Attach additional sheet if necessary) Re: City of Medicine Lodge EA for proposed improvements at Medicine Lodge Municipal Airport

Kevin Heit, Bureau of Waste Management comments are enclosed for this project.


Please see the enclosed comments from Christopher Wierman, Delbert Smith, Seth Mettling and Jesse Cutter, Bureau of Environmental Remediation. Tom Stiles, Bureau of Water offers this comment: Project will disturb more than an acre with construction of new runway; city should obtain a Notice of Intent under Construction Stormwater General Permit from KDHE – BOW – Industrial Programs Unit. Otherwise, no concerns from BOW.

PART III

RECOMMENDED ACTION COMMENTS:

<input type="checkbox"/> Clearance of the project should be granted.	<input checked="" type="checkbox"/> Clearance of the project should not be delayed but the Applicant should (in the final application) address and clarify the question or concerns indicated above.
<input type="checkbox"/> Clearance of the project should not be granted.	<input type="checkbox"/> Request the opportunity to review final application prior to submission to the federal funding agency.
<input type="checkbox"/> Clearance of the project should be delayed until the issues or questions above have been clarified.	
<input type="checkbox"/> Request a State Process Recommendation in concurrence with the above comments	

DIVISIONS/ AGENCY/ COMMISSION



Donna Fisher
Director's Office
Phone: 785.291.3092
Email: donna.fisher@ks.gov

Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 400
Topeka, KS 66612-1367



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www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

MEMORANDUM

TO: Donna Fisher

CC: Ken Powell, Julie Coleman

FROM: Kevin Heit – Bureau of Waste Management

DATE: February 19th, 2021

RE: Intergovernmental Agency Review requested by Kirkham Michael for the Proposed Improvements at Medicine Lodge Municipal Airport near the City of Medicine Lodge, in Barber County, KS.

The City of Medicine Lodge and its contractor(s) should review the attached Technical Guidance Document and ensure all waste is properly disposed. Waste that does not meet the definition of clean rubble or construction/demolition waste should be disposed at a permitted municipal solid waste landfill. If further information is required, I may be reached via email at kevin.heit@ks.gov or by phone at (785) 296-1757.



Construction and Demolition Wastes and Clean Rubble Technical Guidance Document SW-1994-G2

Construction and Demolition (C&D) waste is solid waste generated during construction or demolition activities. Clean rubble is also generated during construction or demolition activities, but it differs in composition from C&D waste. This document explains the definitions of C&D waste and clean rubble and acceptable methods for disposal of both.

Construction and Demolition Waste

Definition of C&D waste

C&D waste is defined in KSA 65-3402 (u) as:

- solid waste resulting from the construction, remodeling, repair and demolition of structures, roads, sidewalks and utilities;
- untreated wood and untreated sawdust from any source;
- treated wood from construction or demolition projects;
- small amounts of municipal solid waste generated by the consumption of food and drinks at construction or demolition sites, including, but not limited to, cups, bags and bottles;
- furniture and appliances from which ozone depleting chlorofluorocarbons have been removed in accordance with the provisions of the federal clean air act;
- solid waste consisting of motor vehicle window glass; and
- solid waste consisting of vegetation from land clearing and grubbing, utility maintenance, and seasonal or storm related cleanup.

Such wastes include, but are not limited to, bricks, concrete, and other masonry materials, roofing materials, soil, rock, wood, wood products, wall or floor coverings, plaster, drywall, plumbing fixtures, electrical wiring, electrical components containing no hazardous materials, non-asbestos insulation and construction related packaging.

Other statutes and regulations further refine the definition:

Construction related packaging means small quantities of packaging wastes that are generated in the construction, remodeling or repair of structures and related appurtenances. "Construction related packaging" does not include packaging wastes that are generated at retail establishments selling construction materials, chemical containers generated from any source or packaging generated during maintenance of existing structures. *KSA 65-3402(dd)*

Furniture and appliances do not include computer monitors and other computer components, televisions, videocassette recorders, stereos, and similar waste electronics.
KAR 28-29-300(a)(4)(A)

Treated wood includes wood treated with any of the following:

- (i) Creosote;
- (ii) oil-borne preservatives, including pentachlorophenol and copper naphthenate;

- (iii) waterborne preservatives, including chromated copper arsenate (CCA), ammoniacal copper zinc arsenate (ACZA), and ammoniacal copper quaternary compound (ACQ); or
- (iv) any other chemical that poses risks to human health and the environment that are similar to the risks posed by the chemicals specified in paragraphs (i) through (iii).

KAR 28-29-300(a)(4)(B)

Untreated wood includes the following, if the wood has not been treated with any of the chemicals listed in the definition of treated wood:

- (i) Coated wood, including wood that has been painted, stained, or varnished; and
- (ii) engineered wood, including plywood, laminated wood, oriented-strand board, and particle board. *KAR 28-29-300(a)(4)(C)*

Wastes which may be disposed of in a C&D landfill

In addition to the items *explicitly* identified as C&D waste in KSA 65-3402 (u), the Kansas Department of Health and Environment (KDHE) considers the following materials as *acceptable* for disposal in a C&D landfill:

1. Uncontaminated wooden pallets;
2. Street sweepings (litter must be removed and concentrations of metals, volatile organic compounds, and other compounds must be below regulatory levels);
3. Floor tile, siding, and roofing material containing non-friable asbestos. This material should be:
 - a. handled so it remains non-friable (e.g., may have to be manually removed prior to demolition of structure);
 - b. transported wet (covered with a mist spray to suppress dust) or transported with tarp cover; and
 - c. covered immediately at the landfill;
4. Trees, brush, sod, and incidental quantities of leaves and grass;
5. Ash and other residues from the burning of trees and brush (trees and brush must have been burned in accordance with KAR 28-19-647);
6. Metal scrap (e.g. tie strapping);
7. Mobile homes and trailers (except the tires and fuel tanks). KDHE encourages the recycling of metal components.

Dry mud trap solids from commercial car washes may be applied as cover at a C&D landfill. To be considered a solid the material must pass the paint filter test, EPA method SW 846/9095.

Wastes which may *not* be disposed of in a C&D landfill

Construction and demolition waste does not include waste material containing friable asbestos, garbage, appliances from which ozone depleting chlorofluorocarbons have not been removed in accordance with the provisions of the federal clean air act, electrical equipment containing hazardous materials, tires, drums and containers even though such wastes resulted from construction and demolition activities.

KSA 65-3402(u)

In addition to the items *explicitly* identified as not being C&D waste, KDHE considers the following wastes *unacceptable* for disposal in a C&D landfill:

1. Processed tires - i.e. cut or baled;
2. Mud trap wastes from businesses other than commercial car washes;
3. Bagged or bulk quantities of leaves and/or grass clippings;
4. Trash bags, unless demonstrated to contain only acceptable wastes.

Disposal options for C&D wastes

Acceptable C&D wastes may be disposed of in either a municipal solid waste landfill (MSWLF) or in a C&D landfill. Both MSWLFs and C&D landfills must be approved by KDHE through a permit process. But because of the relatively inert nature of the wastes disposed in C&D landfills, these landfills do not have to meet design standards as strict as those for MSWLFs.

Most C&D landfills will, on occasion, receive waste that is not appropriate for disposal. Therefore, all C&D landfills should conduct waste screening (i.e., inspect incoming waste and remove unacceptable materials) and maintain a dumpster or roll-off container onsite for unacceptable wastes which are received at the landfill. Waste screening is covered in Technical Guidance Document SW 02-01, and storage of unapproved wastes screened from construction and demolition landfills is addressed in Bureau of Waste Management Policy 02-01.

Clean Rubble

Definition of clean rubble

According to KSA 65-3402 (w), "Clean rubble means the following types of construction and demolition waste: concrete and concrete products including reinforcing steel, asphalt pavement, brick, rock and uncontaminated soil as defined in rules and regulations adopted by the secretary."

KSA 65-3415b lists "clean rubble" as a waste which is exempt from the state solid waste tonnage fee. The definition of "construction and demolition waste" in KSA 65-3402(u) states: "Clean rubble that is mixed with other construction and demolition waste during demolition or transportation shall be considered to be construction and demolition waste. "

Clean rubble that is brought separately to a construction and demolition landfill or a municipal solid waste landfill is not subject to the tonnage fee, even if the clean rubble is mixed with construction and demolition waste or municipal solid waste upon disposal.

Disposal of clean rubble

The stable nature of the materials in clean rubble means it may be disposed of with C&D waste, or it may be disposed of separately at a clean rubble site. However, clean rubble that is mixed with other C&D waste during demolition or transportation is considered to be C&D waste and must be disposed of at either a MSWLF or at a C&D landfill.

Unlike a C&D landfill, state statutes do not require a solid waste permit for operation of a site that accepts only clean rubble. However, a clean rubble site may be subject to local city or county requirements such as local approval (zoning or land use) and local ordinances.

Approval from the Division of Water Resources (DWR) may be required if the site is located in the 100-year flood plain. The operation and appearance of the site must not create a public nuisance or adversely affect the public health or the environment.

For additional information regarding the proper management of solid or hazardous waste in Kansas, you may visit the Bureau of Waste Management website at <http://www.kdheks.gov/waste/> or contact the Bureau at: (785) 296-1600, bwm_web@kdheks.gov, or the address at the top of this document.

Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367



Phone: 785-296-1660
Fax: 785-559-4261
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

MEMORANDUM

TO: Donna Fisher
FROM: Christopher Wierman
DATE: February 25, 2021
RE: Intergovernmental Agency Review requested by Kirkham Michael for Municipal Airport Improvements in the City of Medicine Lodge

The Kansas Department of Health and Environment Bureau of Environmental Remediation (KDHE/BER), Assessment and Restoration Section, Dry Cleaner / Superfund Unit, has not identified contaminated Drycleaner or Superfund sites within the vicinity of the proposed project.

Staff members or representatives for Kirkham Michael or the City of Medicine Lodge are welcome to come and view the KDHE/BER files in accordance with the Kansas Open Records Act. Please contact me at (785) 296-5548 or by email at christopher.wierman@ks.gov if you have any questions.

Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367



Phone: 785-296-1660
Fax: 785-559-4261
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

MEMORANDUM

TO: Donna Fisher
FROM: Delbert Smith
DATE: Feb 19, 2021
RE: Intergovernmental Agency Review requested by Kirkham Michael (Medicine Lodge Municipal Airport Improvements).

The Kansas Department of Health and Environment Bureau of Environmental Remediation (KDHE/BER), Assessment and Restoration Section, Spills Unit, has no identified contaminated spill sites within the vicinity of the proposed project.

Staff members or representatives for the Kirkham Michael or the City of Medicine Lodge are welcome to come and view the KDHE/BER files in accordance with the Kansas Open Records Act. Please contact me at (785) 368-7301 or by email at delbert.smith@ks.gov if you have any questions.

Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 400
Topeka, KS 66612-1367



Phone: 785-296-1535
Fax: 785-559-4264
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

TO: Donna Fisher
FROM: Seth Mettling
DATE: February 26, 2021
RE: Intergovernmental Agency Review, requested by the City of Medicine Lodge

Redevelopment Section – Brownfield Program notes no known sites within the project area. Clearance for the project should be granted.

Staff members or representatives for the City of Lodge are welcome to come and view the KDHE/BER files in accordance with the Kansas Open Records Act. Please contact me at 785.296.5519 or by email at seth.mettling@ks.gov if you have any questions or concerns.

Division of Environment
Curtis State Office Building
1000 SW Jackson St., Suite 410
Topeka, KS 66612-1367



Phone: 785-296-1660
Fax: 785-559-4261
www.kdheks.gov

Lee A. Norman, M.D., Secretary

Laura Kelly, Governor

MEMORANDUM

TO: Donna Fisher
FROM: Jesse Cutter
DATE: March 1, 2021
RE: Intergovernmental Agency Review requested by Kirkham Michael for the City of Medicine Lodge regarding the Municipal Airport Improvements Project

The Kansas Department of Health and Environment Bureau of Environmental Remediation (KDHE/BER), Assessment and Restoration Section, Orphan Sites Unit, has not identified any sites within the vicinity of the project which would be impacted by or would impact the proposed project.

Staff members or representatives for Kirkham Michael are welcome to come and view the KDHE/BER files in accordance with the Kansas Open Records Act. Please contact me at (785) 296-1676 or by email at jesse.cutter@ks.gov if you have any questions.

KSR&C No. 21-02-175
March 12, 2021

Kari Sherman
Kirkham Michael
Via E-Mail

RE: Airport Improvements
Medicine Lodge Municipal Airport
Barber County

The Kansas State Historic Preservation Office has reviewed your e-mail message and attached documentation regarding the above-referenced project dated February 26, 2021. According to our records, we have been reviewing this project since 2008 (KSR&C No. 08-09-057). As part of that review, archeological survey and evaluation of standing structures have been conducted. Since we see no significant changes in the current documentation, our original clearance can stand. This office continues to have no objection to implementation of the project.

This information is provided at your request to assist you in identifying historic properties, as specified in 36 CFR 800 for Section 106 consultation procedures. If you have questions or need additional information regarding these comments, please contact Tim Weston at 785-272-8681 (ext. 214) or Lauren Jones at 785-272-8681 ext. 225. Please refer to the Kansas Review & Compliance number (KSR&C#) above on all future correspondence relating to this project.

Sincerely,

Jennie Chinn
Executive Director and
State Historic Preservation Officer



Patrick Zollner
Deputy State Historic Preservation Officer

From: [Gabriel, Christine](#)
To: [Kari Sherman](#)
Cc: [Hoover, Courtney L](#); [Werdel, Nancy](#)
Subject: Medicine Lodge Airport Environmental Assessment
Date: Friday, February 19, 2021 9:38:38 AM
Attachments: [DOI Env Review Letter.pdf](#)

Hi Kari,

The National Park Service (Regions 3/4/5) has reviewed this project and concluded no NPS resources would be impacted.

Thanks,

c.

From: Hoover, Courtney L <courtney_hoover@ios.doi.gov>
Sent: Thursday, February 18, 2021 1:57 PM
To: Daniels, Benjamin L <BenjaminL.Daniels@bia.gov>; Barnes, Melanie G <MGBarnes@blm.gov>; Cunningham, Catherine (Cathy) S <ccunningham@usbr.gov>; Taylor, Theresa J <TTaylor@usbr.gov>; Boroja, Maria T <maria_boroja@fws.gov>; LeBlanc, Darren <darren_leblanc@fws.gov>; Luginbill, Jason S <jason_luginbill@fws.gov>; Werdel, Nancy <Nancy_Werdel@nps.gov>; Runkel, Roxanne <Roxanne_Runkel@nps.gov>; Boswell, Tokey <Tokey_Boswell@nps.gov>; Gabriel, Christine <christine_gabriel@nps.gov>; Janowicz, Jon A <jjanowicz@usgs.gov>; Devine, James F <jdevine@usgs.gov>
Subject: Fw: [EXTERNAL] Medicine Lodge Airport Environmental Assessment

Hi everyone, this notice is not being handled through the ER system. If you have any questions, or feedback on the attached request letter, please reach out to Kari (contact information in the below message).

Thank you

Courtney Hoover
Regional Environmental Officer, Denver
Office of Environmental Policy and Compliance
Department of the Interior Regions 5 (Missouri Basin) and 7 (Upper Colorado Basin)

303-478-3373 (Cell)
Denver Federal Center, Building 46
P.O. Box 25207
Denver, CO 80225

From: Kari Sherman <ksherman@kirkham.com>
Sent: Thursday, February 18, 2021 10:42 AM
To: Hoover, Courtney L <courtney_hoover@ios.doi.gov>
Subject: [EXTERNAL] Medicine Lodge Airport Environmental Assessment

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Hello Ms. Hoover,
Attached is a request letter for DOI Review for an FAA Environmental Assessment for proposed improvements at the Medicine Lodge Municipal Airport in Medicine Lodge, Kansas. If you have any questions, please feel free to contact me.

Thanks you.

KIRKHAM MICHAEL

1946 - Celebrating 75 Years - 2021

Kari Sherman

402-255-3826 phone
402-255-3850 fax
ksherman@kirkham.com

Iowa • Kansas • Nebraska

<http://www.kirkham.com>

From: [Pounds, Samantha \[KDWPT\]](#)
To: [Kari Sherman](#)
Subject: KDWPT review, construction at Medicine Lodge Municipal Airport, Barber County (KM# 2006240; Track# 20060696-6)
Date: Thursday, April 1, 2021 11:40:15 AM
Attachments: [image001.jpg](#)

Dear Kari Sherman,

We have reviewed the information for the proposed construction at Medicine Lodge Municipal Airport in Barber County, KS (Sec 17 T32S R11W). The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and Kansas Department of Wildlife, Parks, and Tourism managed areas for which this agency has administrative authority.

We recommend avoiding ground disturbance from March 1 to April 31, as this is the critical spawning period for the State Threatened Strecker's Chorus Frog.

We provide the following comments and general recommendations, when applicable:

- **Avoid ground disturbance from March 1 to April 31 to minimize impacts to the Strecker's Chorus Frog.**
- **Avoid impacts to existing streams and rivers, adjacent riparian zones, wetlands, and native prairie and woodland areas.**
- **Minimize all bank or instream activity, particularly during general fish spawning season (March 1 – Aug. 31).**
- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, porous concrete, swales, bioretention, or raingardens. More info. on LID: <http://www.epa.gov/owow/NPS/lid/>**
- **Implement and maintain standard erosion-control Best-Management-Practices during all aspects of construction by installing sediment barriers (wattles, filter logs, rock ditch checks, mulching, or any combination of these) across the entire construction area to prevent sediment and spoil from entering aquatic systems. Barriers should be maintained at high functioning capacity until construction is completed and vegetation is established. For more information, go to: <http://www.kdheks.gov/stormwater/#construct>**
- **Reseed disturbed areas with native warm-season grasses, forbs, and trees.**

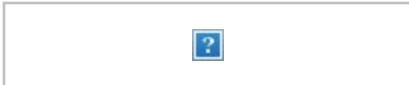
Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Permits may still be required from other agencies, and we recommend consultation with all other applicable regulatory authorities.

Since the Department's recreational land obligations and the State's species listings

periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

Please consider this email our official review for this project. Thank you for the opportunity to provide these comments and recommendations. Please let me know if you have any questions or concerns about the preceding information.

Please direct all review materials electronically to KDWPT.ess@ks.gov to streamline the review process for all parties.



Samantha Pounds

She/Her

Ecologist, Ecological Services Section

Kansas Dept. of Wildlife, Parks, and Tourism

Pratt, KS 67124

Office: (620)672-0792

Cell: (620)388-6061

samantha.pounds@ks.gov



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, KANSAS CITY DISTRICT
KANSAS STATE REGULATORY OFFICE
2710 NE SHADY CREEK ACCESS ROAD
EL DORADO, KANSAS 67042

April 15, 2021

Kansas State Regulatory Office
(NWK-2021-00177)
(BARBER, KS AJD)

Kirkham Michael & Associates
c/o Kari Sherman
12700 West Dodge Road
Omaha, Nebraska 68154

Dear Ms. Sherman:

This letter is in response to your request, submitted on behalf of the City of Medicine Lodge on February 19, 2021 for a Jurisdictional Determination for the expansion of the City of Medicine Lodge Airport. The site is located in the SW $\frac{1}{4}$ of Section 08 and NW $\frac{1}{4}$ of Section 17, Township 32 South, Range 11 West, Barber County, Kansas (Lat: 37.26787°, Lon: -98.54823°). Your request has been assigned Regulatory File No. NWK-2021-00177. Please reference this file number on any correspondence to us or to other interested parties concerning this matter.

This letter contains an approved jurisdictional determination for your project site. This jurisdictional determination is valid for a 5-year period from the date of this letter unless new information warrants revision of the determination before the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Administrative Appeal Options and Process and Request for Appeal (NAO-RFA) form. If you request to appeal this determination, you must submit a completed NAO-RFA form to the Northwestern Division Office at the following address:

Division Engineer
U.S. Army Corps of Engineers, Northwestern Division
ATTN: Melinda M. Larsen
Regulatory Appeals Review Officer
1201 NE Lloyd Blvd., Suite 400
Portland, OR 97232
Telephone: 503-808-3888

In order for an NAO-RFA to be accepted by the Corps, the Corps must determine that it is completed, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the date of the NAO-RFA. Should you decide to submit an NAO-RFA form, it must be received at the above address by **June 14, 2021**. It is not necessary to submit an NAO-RFA form to the Division Office if you do not object to the determination in this letter.

In the event that you disagree with an approved jurisdictional determination and you have **new information** not considered in the original determination, you may request reconsideration of that determination by the Corps District prior to initiating an appeal. To request this reconsideration based upon new information, you must submit the completed NAO-RFA form and the new information to the District

Office so that it is received within 60 days of the date of the NAO-RFA. Send approved jurisdictional determination reconsideration requests to:

District Commander
U.S. Army Corps of Engineers, Kansas City District
ATTN: Mark D. Frazier
Chief, Regulatory Branch
601 East 12th Street, Suite 402
Kansas City, MO 64106-2824
Telephone: 816-389-3990 - FAX: 816-389-2032

The Corps of Engineers has jurisdiction over all waters of the United States. Discharges of dredged or fill material in waters of the United States, including wetlands, require prior authorization from the Corps under Section 404 of the Clean Water Act (33 USC 1344) *and/or Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403)*. The implementing regulations for these Acts are found at 33 CFR 320-332.

We have reviewed the information furnished and have determined that the proposed activity will not involve the discharge of dredged or fill material in waters of the United States. Therefore, Department of the Army permit authorization is not required. Other Federal, state and/or local permits may be required, however, and you should verify this yourself.

We are interested in your thoughts and opinions concerning your experience with the Kansas City District, Corps of Engineers Regulatory Program. Please feel free to complete our Customer Service Survey form on our website at: <https://regulatory.ops.usace.army.mil/customer-service-survey/>. You may also call and request a paper copy of the survey which you may complete and return to us by mail.

If you have any questions concerning this matter, please feel free to contact Scott Dodson at (816) 389-3743 or email scott.t.dodson@usace.army.mil. Please reference Regulatory File No. **NWK-2020-00177** in all comments and/or inquiries relating to this project. This letter is only being provided to you electronically at: ksherman@kirkham.com

Sincerely,



Scott Dodson
Regulatory Specialist
Kansas State Regulatory Office

Enclosures

Copies Furnished (electronically w/o enclosures):

Environmental Protection Agency,
Watershed Planning and Implementation Branch

U.S. Fish and Wildlife Service, Manhattan, Kansas
Kansas Department of Wildlife, Parks and Tourism
Kansas Department of Health and Environment
Kansas Department of Agriculture



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

I. ADMINISTRATIVE INFORMATION

Completion Date of Approved Jurisdictional Determination (AJD): 4/15/2021

ORM Number: NWK-2021-00177

Associated JDs: N/A

Review Area Location¹: State/Territory: Kansas City: Medicine Lodge County/Parish/Borough: Barber

Center Coordinates of Review Area: Latitude 37.26787° Longitude -98.54823°

II. FINDINGS

A. Summary: Check all that apply. At least one box from the following list MUST be selected. Complete the corresponding sections/tables and summarize data sources.

- The review area is comprised entirely of dry land (i.e., there are no waters or water features, including wetlands, of any kind in the entire review area). Rationale: N/A or describe rationale.
- There are “navigable waters of the United States” within Rivers and Harbors Act jurisdiction within the review area (complete table in Section II.B).
- There are “waters of the United States” within Clean Water Act jurisdiction within the review area (complete appropriate tables in Section II.C).
- There are waters or water features excluded from Clean Water Act jurisdiction within the review area (complete table in Section II.D).

B. Rivers and Harbors Act of 1899 Section 10 (§ 10)²

§ 10 Name	§ 10 Size	§ 10 Criteria	Rationale for § 10 Determination
N/A.	N/A.	N/A.	N/A.

C. Clean Water Act Section 404

Territorial Seas and Traditional Navigable Waters ((a)(1) waters): ³			
(a)(1) Name	(a)(1) Size	(a)(1) Criteria	Rationale for (a)(1) Determination
N/A.	N/A.	N/A.	N/A.

Tributaries ((a)(2) waters):			
(a)(2) Name	(a)(2) Size	(a)(2) Criteria	Rationale for (a)(2) Determination
N/A.	N/A.	N/A.	N/A.

Lakes and ponds, and impoundments of jurisdictional waters ((a)(3) waters):			
(a)(3) Name	(a)(3) Size	(a)(3) Criteria	Rationale for (a)(3) Determination
N/A.	N/A.	N/A.	N/A.

Adjacent wetlands ((a)(4) waters):			
(a)(4) Name	(a)(4) Size	(a)(4) Criteria	Rationale for (a)(4) Determination
N/A.	N/A.	N/A.	N/A.

¹ Map(s)/figure(s) are attached to the AJD provided to the requestor.

² If the navigable water is not subject to the ebb and flow of the tide or included on the District’s list of Rivers and Harbors Act Section 10 navigable waters list, do NOT use this document to make the determination. The District must continue to follow the procedure outlined in 33 CFR part 329.14 to make a Rivers and Harbors Act Section 10 navigability determination.

³ A stand-alone TNW determination is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established. A stand-alone TNW determination should be completed following applicable guidance and should NOT be documented on the AJD Form.



**U.S. ARMY CORPS OF ENGINEERS
REGULATORY PROGRAM
APPROVED JURISDICTIONAL DETERMINATION FORM (INTERIM)
NAVIGABLE WATERS PROTECTION RULE**

D. Excluded Waters or Features

Excluded waters ((b)(1) – (b)(12)): ⁴				
Exclusion Name	Exclusion Size		Exclusion ⁵	Rationale for Exclusion Determination
NWK-2021-00177-1	0.057	acre(s)	(b)(1) Non-adjacent wetland.	The wetland is located substantially higher in topography than the nearest jurisdictional stream and over 1.0 mile upslope of the inundation zone of any downslope (a)(1), (2), or (3) waters (possibly further). Therefore, flooding from the nearby tributary, or any other (a)(1), (2), or (3) water, will never inundate this wetland (let alone in a typical year).
NWK-2021-00177-2	0.127	acre(s)	(b)(1) Non-adjacent wetland.	The wetland is located substantially higher in topography than the nearest jurisdictional stream and over 1.0 mile upslope of the inundation zone of any downslope (a)(1), (2), or (3) waters (possibly further). Therefore, flooding from the nearby tributary, or any other (a)(1), (2), or (3) water, will never inundate this wetland (let alone in a typical year).

III. SUPPORTING INFORMATION

A. Select/enter all resources that were used to aid in this determination and attach data/maps to this document and/or references/citations in the administrative record, as appropriate.

Information submitted by, or on behalf of, the applicant/consultant: [Wetland Delineation Report, Feb. 2021](#)

This information is sufficient for purposes of this AJD.

Rationale: [Accurate WOUS Delineation including data forms, site photos, georeferenced points.](#)

- Data sheets prepared by the Corps: [Title\(s\) and/or date\(s\).](#)
- Photographs: [Select. N/A](#)
- Corps site visit(s) conducted on: [N/A](#)
- Previous Jurisdictional Determinations (AJDs or PJDs): [ORM Number\(s\) and date\(s\).](#)
- Antecedent Precipitation Tool: [provide detailed discussion in Section III.B.](#)
- USDA NRCS Soil Survey: [Title\(s\) and/or date\(s\).](#)
- USFWS NWI maps: [USFWS NWI – compiled in 1980s](#)
- USGS topographic maps: [1:24,000, Medicine Lodge](#)

Other data sources used to aid in this determination:

Data Source (select)	Name and/or date and other relevant information
USGS Sources	USGS Topo maps listed above in section III.A.
USDA Sources	N/A.
NOAA Sources	N/A.
USACE Sources	N/A

⁴ Some excluded waters, such as (b)(2) and (b)(4), may not be specifically identified on the AJD form unless a requestor specifically asks a Corps district to do so. Corps districts may, in case-by-case instances, choose to identify some or all of these waters within the review area.

⁵ Because of the broad nature of the (b)(1) exclusion and in an effort to collect data on specific types of waters that would be covered by the (b)(1) exclusion, four sub-categories of (b)(1) exclusions were administratively created for the purposes of the AJD Form. These four sub-categories are not new exclusions, but are simply administrative distinctions and remain (b)(1) exclusions as defined by the NWPR.



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NAVIGABLE WATERS PROTECTION RULE**

Data Source (select)	Name and/or date and other relevant information
State/Local/Tribal Sources	N/A.
Other Sources	Aerial imagery resources: Google Earth Pro (2008, 2010, 2011, 2013, and 2016 (x2)).

B. Typical year assessment(s): [There is no likelihood that the features reviewed in this AJD form could be inundated by any \(a\)\(1\), \(2\), or \(3\) water in a typical year \(see rationale in section II.D. above\).](#)

C. Additional comments to support AJD: [Both Wetlands are located more than 1 mile from a potential jurisdictional WOUS.](#)

NWK-2021-00177

Medicine Lodge Airport

U.S. Hwy 160

Pageant Rd






11W 32S 7

11W 32S 8

160

Legend

-  NWK-2021-00177-1
-  NWK-2021-00177-2
-  Review Area

11W 32S 17

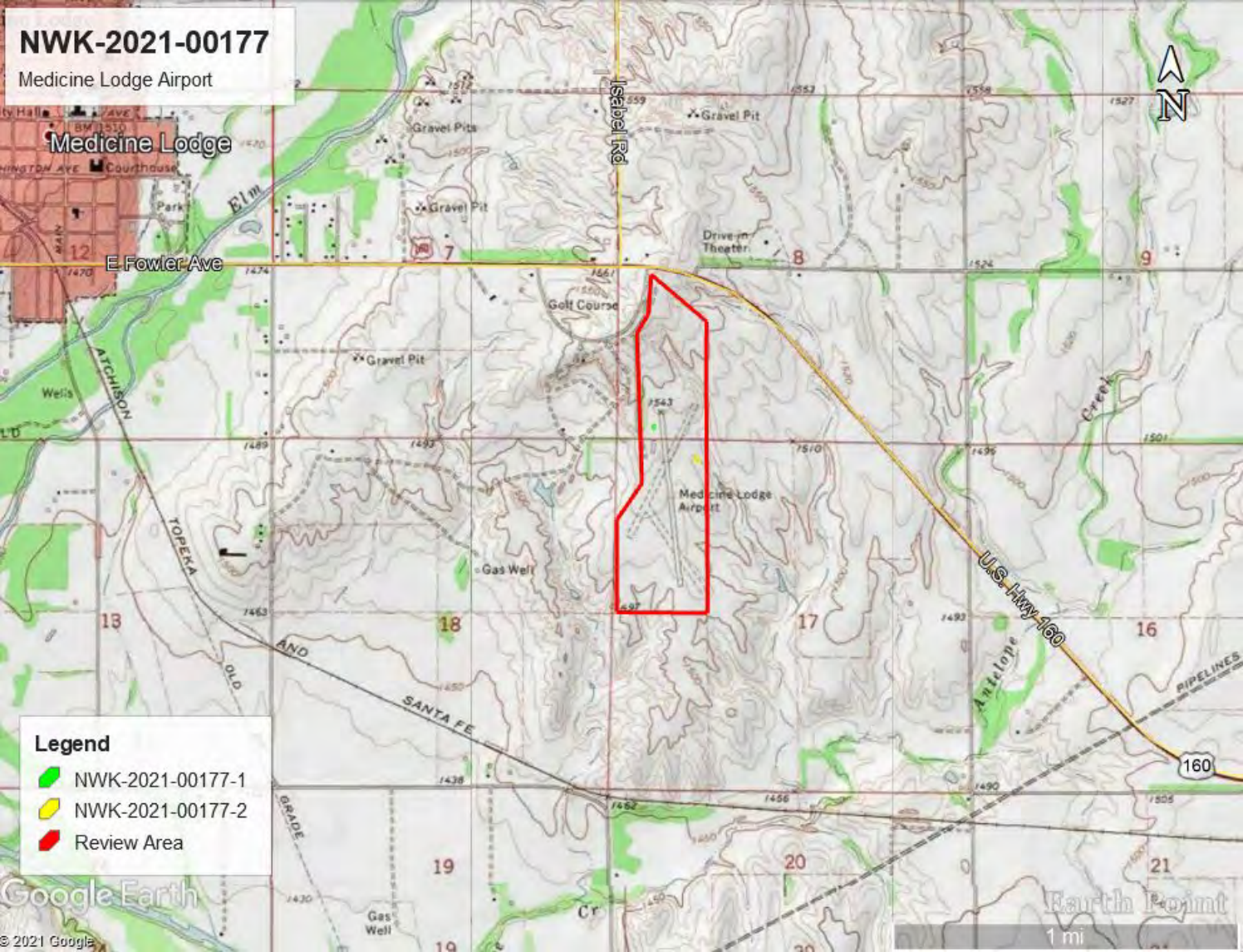
Google Earth

© 2021 Google

2000 ft

NWK-2021-00177

Medicine Lodge Airport






Medicine Lodge

E Fowler Ave

Isabel Rd

U.S. Hwy 160

Legend

-  NWK-2021-00177-1
-  NWK-2021-00177-2
-  Review Area

Appendix B: Public Involvement

Public Involvement to be conducted at a later date.

Appendix C: Sponsor Land Use Letter

January 5, 2022

Mr. Scott Tener
Federal Aviation Administration, Central Region Airports Division
901 Locust Street, Room 364
Kansas City, MO 64106-2325

Re: Medicine Lodge Municipal Airport Land Use Assurance

Dear Mr. Tener:

The City of Medicine assures that per 49 USC 47107(a)(10), appropriate action, including the adoption of zoning laws, has been or will be taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Medicine Lodge Municipal Airport to activities and purposes compatible with normal airport operations, including the landing and takeoff of aircraft. This applies to both existing and planned land uses.

If the Federal Aviation Administration has any further questions regarding this matter, please contact me.

Regards:



Jeffrey Porter
Medicine Lodge City Administrator

Cc: Kari Sherman, Kirkham Michael
Eric Johnson, Kirkham Michael

Appendix D: Aviation Forecast Data

INTRODUCTION

The Environmental Assessment (EA) provides an analysis of potential impacts to environmental resources resulting from the Proposed Action for airport improvements at the Medicine Lodge Municipal Airport (K51). The Proposed Action includes significant airfield improvements including the construction of a new 3,200' x 60' north-south paved runway, designated 18-36, to accommodate current and future local and transient piston and turbine operational activity. The Proposed Action also includes the development of a new terminal area to the east of the proposed runway.

The Purpose and Need statement of the EA is to ensure the Proposed Action meets FAA design standards in Advisory Circular (AC) 5300-13, *Airport Design*, and safely accommodates existing and ultimate aviation demand. In order to justify the implementation of the Proposed Action during the 0-5 year planning period, projected operational data is needed to identify the types of aircraft using the airport and how often the airport experiences operational activity. This information will assist with the determination of the timing and sequence of future improvements needed to accommodate demand.

OPERATIONAL ACTIVITY

Table 1 summarizes the current number of based aircraft, total annual operations at K51, as well as the number of aircraft registered in Barber County. Currently, there are four based single-engine airplanes at the airport. Also, the airport experiences nearly 2,400 annual operations (takeoffs and landings) by single- and twin-piston aircraft. Approximately 50 percent of the aircraft operations are local while the remaining 50 percent are generated by aircraft flying greater than 20 NM to or from Medicine Lodge. It should be noted that according to the FAA Aircraft Registry, there are 17 airplanes registered in Barber County. This aircraft fleet consists of 17 single-engine airplanes. Based on existing information, the majority of these aircraft are likely based at private turf airports located in the county or local public-use airports in surrounding counties of Kansas and Oklahoma.

Table 1-Based Aircraft and Operational Activity

Year	Total Based Aircraft	Single-Engine	Multi-Engine	Business Jets	Rotor-wing	Local Operations	Itinerant Operations	Air Taxi*	Total Operations
2012	4	4	0	0	0	1,200	1,200	0	2,400

(*) Air taxi operations are on-demand charters governed by Part 135 of the Federal Aviation Regulations (FAR). Air taxi operations are typically conducted by turbine-powered airplanes.

Source: FAA Form 5010, *Airport Master Record*; City of Medicine Lodge.

EXISTING CRITICAL AIRCRAFT

The critical aircraft is the largest airplane within a composite family of aircraft conducting at least 500 itinerant operations (combination of 250 takeoffs and landings) per year at the airport. The critical aircraft is evaluated with respect to size, speed and weight, and is important for determining airport design and safety area standards, as well as structural and equipment needs for the airfield and terminal area facilities.

The Cessna 182, or an aircraft with similar operational and physical characteristics, was identified as the critical aircraft due to the airport’s single-engine based aircraft fleet and the 182’s prevalence within the general aviation market segment. **Table 2** provides information regarding the existing critical aircraft for K51.



Table 2-Existing Critical Aircraft—Cessna 182 ‘Skylane’

Characteristic	Specifications/Performance
Airport Reference Code (ARC)	A-I
Wing Span	36 ft. 0 in.
Length	29 ft. 0 in.
Height	9 ft. 4 in.
Seating	4
Maximum Takeoff Weight (MTOW)	3,100 lbs.
Maximum Landing Weight (MLW)	2,950 lbs.
Normal Approach Speed	65 knots
Takeoff Field Length*	1,514 feet
Landing Distance**	1,350 feet
Max. Range Performance***	937 NM

(*) MTOW, sea level, standard temperature, departure flaps and takeoff over 50 foot obstacle.

(**) Max. landing weight, sea level, standard temperature and approach over 50 foot obstacle.

(***) 45 minute fuel reserves, 55% power at 12,000 feet MSL.

Source: Cessna Aircraft Company, Wichita, KS.

AIRPORT ROLE

K51 is included within the National Plan of Integrated Airport Systems (NPIAS) and is designated as a General Aviation airport. Inclusion in the NPIAS allows the airport to receive federal funding for capital improvement projects. K51 is also included in the Kansas Airport System Plan (KASP) and designated a Business Airport. Business Airports serve local business, recreational and personal flying. K51 is designed to accommodate nearly 95 percent of the general aviation aircraft fleet including aircraft weighing less than 12,500 pounds and having less than 10 passenger seats.

One of the primary functions of the airport is to accommodate local and transient single- and/or multi-engine piston activity, as well as limited turbine air ambulance aircraft. This design recommendation coincides with KDOT’s future system objective of having, at minimum, one paved, public-use airport capable of accommodating air ambulance aircraft in all-weather conditions within every county in the state. K51 is currently the only airport within Barber County capable of fulfilling this role within the KASP. Furthermore, K51 is the only NPIAS

airport serving Barber County. The nearest NPIAS airport capable of serving demand similar to K51 is the Pratt Regional Airport (PTT), Pratt, Kansas, which is located 34 miles north-northwest of Medicine Lodge with a travel time of approximately 40 minutes to reach the facility by car. The next closest NPIAS airport is Anthony Municipal Airport (ANY), Anthony, Kansas, located 38 miles east-southeast with a travel time of nearly 44 minutes. Improving the airport to meet current FAA design recommendations is necessary to provide an airport that is safe and efficient for residents of Medicine Lodge and Barber County in addition to transient airport users. Furthermore, improving the airport will reduce the likelihood of residents and airport users having to travel to an alternative airport in another county resulting in significant increases in time and transportation costs to have access to air transportation.

Lastly, the airport serves both the City of Medicine Lodge and Barber County which consists of a population of nearly 4,900 residents and includes seven incorporated cities and another six unincorporated communities. As previously indicated, there are 17 single-engine airplanes registered in Barber County.

FORECAST OF BASED AIRCRAFT

In 2008, the city completed an Airport Master Plan and Site Selection Study to determine the feasibility of relocating the airport and expanding services within Barber County. A full EA followed the master plan and site selection. The findings and recommendation of both projects met with opposition from the community which resulted in the plan to relocate the airport being shelved. Prior to this study and during the master plan/site selection process, the current airport location fell into disrepair. The condition of the airport resulted in the based aircraft fleet falling from 11 to the current roster of four aircraft. Since 2009, the community's renewed interest in the airport resulted in a feasibility study and Airport Layout Plan (ALP) update being completed with the intent of improving the current airport site to better accommodate user demand and attract additional tenants. New facilities such as a relocated terminal area including additional hangar space, 100LL aviation fuel, paved parking apron, as well as a reconstructed runway surface and instrument approach capabilities, are likely to attract local airplane owners and/or citizens requiring air transportation to and from Medicine Lodge and Barber County.

According to the FAA registry, five aircraft registrants live in Medicine Lodge while four of those individuals base their aircraft at K51. The remaining 12 aircraft owners live in the cities of Kiowa and Hardtner, both located in southern Barber County. The aircraft registry does not indicate where the airplanes are actually based, whether that is within Barber County, adjacent counties or Oklahoma. The proximity of these two cities to the nearest NPIAS airport with similar facilities makes K51 the more convenient choice for county-registered aircraft owners to store their aircraft. The distance from Hardtner and Kiowa to Alva Municipal Airport (AVK), Alva, OK, averages 21 miles by car with a drive-time of 25 minutes. The distance from Hardtner and Kiowa to Anthony Municipal averages 34 miles by car with a drive-time of 39 minutes. The distance and drive-time from southern Barber County to K51 is 24 miles and 28 minutes, respectively.

Based on this rationale, the airport's based aircraft fleet estimate assumes that in the event the airport is expanded and improved, the potential exists for the remaining 12 aircraft owners to eventually be based at K51. One additional aircraft is expected during the 0-5 year planning

period while the remaining aircraft would be based at the airport throughout the 6-20 year planning period. **Table 3** and **Figure 1** summarize the airport's based aircraft estimate.

Table 3- Future Based Aircraft Summary

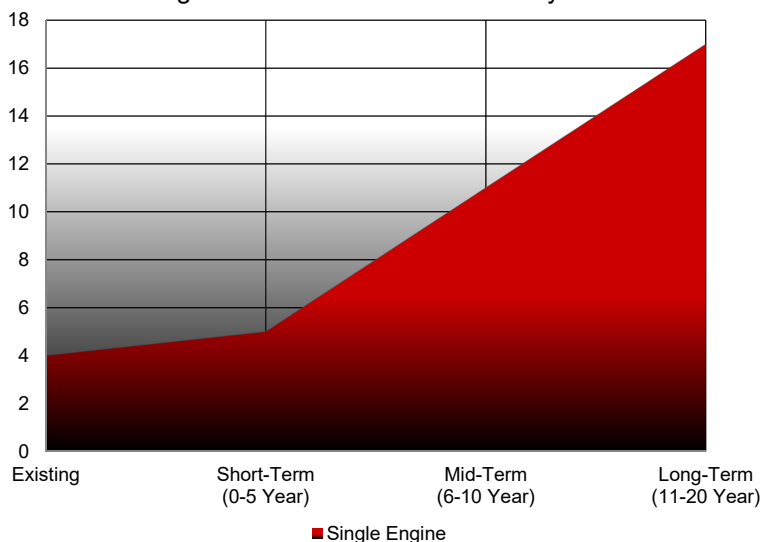
Aircraft Category	2012-13	Short-Term (0-5 Year)	Mid-Term (6-10 Year)	Long-Term (11-20 Year)
Single-Engine	4	5	11	17
Multi-Engine Piston	0	0	0	0
Turbo-Prop	0	0	0	0
Business Jet	0	0	0	0
Rotorcraft	0	0	0	0
Total Based Aircraft	4	5	11	17
Based Aircraft Estimates from Previous Studies				
Airport Layout Plan Update (2010)	4	5	5	6
KASP	4	4	4	4
Airport Master Plan (2008)	8	10	11	12

KASP- Kansas Airport System Plan

Source: Lochner.

The airport is expected to continue to host four to five based single-engine aircraft during the 0-5 year planning period. During the mid-term planning period (6-10 year) the airport is expected to host six additional airplanes. Ultimately, the airport could host as many as 17 county-registered based aircraft. Accordingly, the single-engine fleet is expected to increase from four existing units to 17 units including traditional single-engine, experimental and light sport aircraft. Due to the long-term role of the airport, coupled with the lack of existing local demand, the airport is not expected to host turbo-props, business jets or helicopters during the 20-year planning period.

Figure 1 - Based Aircraft Summary



As indicated in **Table 3**, the KASP examined U.S. market share, population and employment growth then used a tiered system to apply forecasted growth rates to based aircraft and operations at general aviation airports in the state. The KASP's methodology resulted in the airport's based aircraft fleet remaining steady at four units through 2027.

The ALP update performed in 2010 considered operational and based aircraft growth projected as part of the KASP, as well as local socioeconomic and operational conditions specific to Medicine Lodge. However, the ALP

socioeconomic and operational conditions specific to Medicine Lodge. However, the ALP

update forecasts did not consider the service role of the airport within Barber County which resulted in the county-registered aircraft being left out of the demand forecast analysis. Similar to the KASP, the ALP update forecasts predicted slow growth resulting in six based airplanes at the conclusion of the 20-year planning period.

The 2008 master plan, in addition to considering local socioeconomic data as well as other variables, also considered the market share of airplanes registered in Barber County and applied that total to the potential based aircraft fleet at K51. The result was a based aircraft projection totaling approximately 12 airplanes at the conclusion of the 20-year planning period.

FORECAST OF ANNUAL OPERATIONS

Generally, there is a direct relationship between based aircraft and annual operations. Because based aircraft and annual operations historically follow similar trends and growth rates, this analysis will compare the two and draw conclusions as to the potential estimated activity at the facility. The relationship between the two, known as operations per based aircraft (OPBA), will be examined, whereby the estimated increase in activity—total aircraft operations—will be calculated and established. **Table 4** and **Figure 2** summarize the forecast of annual operations for K51 throughout the 20-year development period.

Table 4- Future Aircraft Operations Summary

Aircraft Category	2012-13	Short-Term (0-5 Year)	Mid-Term (6-10 Year)	Long-Term (11-20 Year)
Local Operations (50%)	1,200	1,200	1,400	2,200
Itinerant Operations (50%)	1,200	1,200	1,400	2,200
Total Operations (100%)	2,400	2,400	2,800	4,400
Annual Operational Estimates from Previous Studies				
Airport Layout Plan Update (2010)	2,500	2,500	2,500	3,000
KASP	2,400	2,400	2,500	2,600
Airport Master Plan (2008)	3,300	4,100	4,700	5,200

KASP- Kansas Airport System Plan

Note: Figures rounded to the nearest hundred for planning purposes.

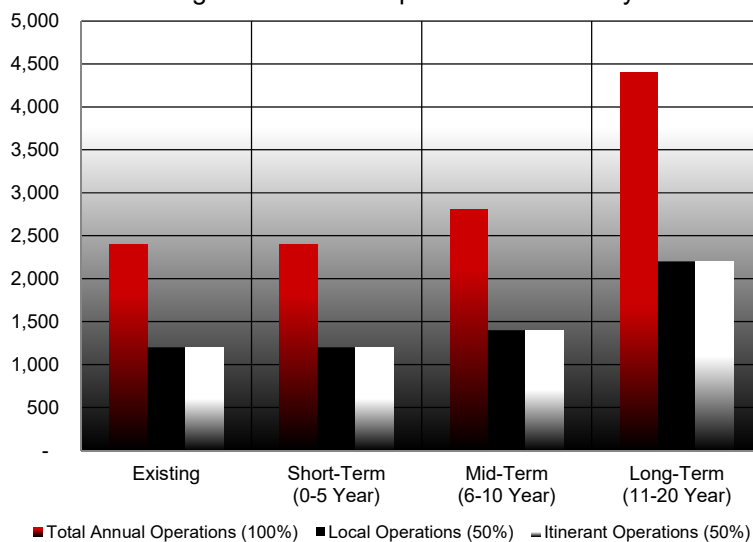
Aircraft Operation—An aircraft operation is defined as one takeoff or landing. Aircraft operations are identified as either local or itinerant. Local operations consist of those within a 20-mile radius of the airport vicinity and itinerant operations include all other operations, having a terminus of flight from another airport at least 20 miles away.

Source: Lochner.

FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems*, was considered in forecasting the airports' annual flight activity. For non-towered airports, Order 5090.3C recommends that 250 OPBA be used for small general aviation airports. Accordingly, for purposes of forecasting annual operations throughout the planning period, 250 OPBA was viewed as a reasonable expectation of long-range demand. Utilizing 250 OPBA to forecast operational activity yields approximately 4,400 annual takeoffs and landings in 2032. Operational activity during the 0-5 year timeframe is expected to coincide with current trends and result in nearly 2,400 annual operations. The 6-10 year planning period's operational tempo will increase slightly to nearly 3,000 annual operations with the addition of six potential based aircraft during the period.

Although the majority of operations will be conducted by single- and twin-piston airplanes, the airport is expected to experience occasional activity by twin turbo-prop airplanes weighing less than 12,500 pounds. These aircraft are expected to be operated by state agencies, air ambulance providers, air charter operators and/or corporate flight departments. Additional operational activity will be driven by the tourism and sporting industry within Barber and surrounding counties due to popularity of hunting and fishing within the south-central region of the state.

Figure 2 - Annual Operational Summary



When comparing the existing projections to KASP projections, as with based aircraft forecasts, the KASP’s methodology resulted in the airport’s operational tempo remaining steady throughout the planning period resulting in approximately 2,600 annual takeoffs and landings. The 2010 ALP update also arrived at higher, but similar, estimates which indicated a total of approximately 3,000 annual takeoffs and landings at the conclusion of the planning period. Lastly, the 2008 master plan projected nearly 5,200 annual operations.

Based on previous planning studies, the relationship between local versus itinerant operations for the airport was approximately 50 percent local and 50 percent itinerant in nature. The relationship of local versus itinerant operations is expected to be maintained throughout the planning period. Local and itinerant operations are expected to grow at a rate that coincides with the airport’s overall increase in operational activity. **Table 4** and **Figure 2** also summarize the share of local versus itinerant operations expected to be conducted at K51.

FUTURE CRITICAL AIRCRAFT

The critical aircraft is the largest airplane within a composite family of aircraft conducting at least 500 itinerant operations (combination of 250 takeoffs and landings) per year at an airport.



Table 5 provides information regarding K51’s ultimate critical aircraft.

The next generation Beechcraft ‘Baron’, or an aircraft with similar operational and physical characteristics, was

chosen as the airport’s critical aircraft due to its operational capabilities, passenger capacity,

Medicine Lodge Municipal Airport
 Environmental Assessment
 Aviation Demand Forecast White Paper

range, continued production and its prevalence within the private corporate general aviation market segments. The Baron, or a similar multi-engine piston aircraft, represents a cross-section of a family of multi-engine piston aircraft that are anticipated to conduct operations at the airport throughout the planning period.

Table 5- Future Critical Aircraft—Beechcraft G58 ‘Baron’

Characteristic	Specifications/Performance
Airport Reference Code (ARC)	B-I
Wing Span	31 ft. 10 in.
Length	29 ft. 10 in.
Height	9 ft. 9 in.
Seating	6
Maximum Takeoff Weight (MTOW)	5,500 lbs.
Maximum Landing Weight (MLW)	5,400 lbs.
Max. Range Performance*	1,036 NM
Normal Approach Speed	95 knots
Takeoff Field Length**	2,300 feet
Landing Distance***	2,500 feet

(*) VFR reserves; 1 pilot + 4 passengers.

(**) MTOW, sea level, standard temperature.

(***) Max. landing weight, sea level, standard temperature, 95 KIAS.

Source: Hawker Beechcraft, Wichita, KS.

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Appendix E: Biological – Threatened and Endangered Species



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, KS 66502-2801
Phone: (785) 539-3474 Fax: (785) 539-8567

In Reply Refer To:
Consultation Code: 06E21000-2021-SLI-0524
Event Code: 06E21000-2021-E-01121
Project Name: Medicine Lodge Airport EA

February 18, 2021

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

To Whom It May Concern:

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

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

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

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

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

https://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*)(<https://www.fws.gov/birds/management/managed-species/eagle-management.php>), and wind projects affecting these species may require development of an eagle conservation plan (<https://www.fws.gov/migratorybirds/pdf/management/eagleconservationplanguidance.pdf>). Additionally, wind energy projects should follow the wind energy guidelines (<https://www.fws.gov/ecological-services/energy-development/wind.html>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <https://www.fws.gov/birds/management/project-assessment-tools-and-guidance.php>

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

Attachment(s):

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

Official Species List

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

This species list is provided by:

Kansas Ecological Services Field Office

2609 Anderson Avenue

Manhattan, KS 66502-2801

(785) 539-3474

Project Summary

Consultation Code: 06E21000-2021-SLI-0524

Event Code: 06E21000-2021-E-01121

Project Name: Medicine Lodge Airport EA

Project Type: Federal Grant / Loan Related

Project Description: • Remove obstructions to comply with FAR Part 77 airspace surfaces as well as proposed Runway Safety Areas (RSA) and Object Free Areas (OFA)

- Rehabilitate Runway 16-34
- Acquire approximately 31.6 acres for AWOS easement
- Decommission and abandon north-south paved Runway 16-34;
- Abandon current terminal area and relocate facilities to the east and northwest of proposed Runway 18-36 to meet RSA & OFA standards;
- Construct a new Runway 18-36 (3,200' x 60') with aircraft turnarounds at each threshold; to replace Runway 16-34 and meet Airport Reference Code (ARC) B-I standards; including airfield lighting
- Install Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) for Runway 18-36
- Develop new instrument approach procedures- Runway 18-36 RNAV (GPS)
- Decommission and abandon turf crosswind runway 13-31

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@37.2656257,-98.54794300121105,14z>



Counties: Barber County, Kansas

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Birds

NAME	STATUS
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

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

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.

Migratory Birds

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

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

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

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

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

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Harris's Sparrow <i>Zonotrichia querula</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere

Probability Of Presence Summary

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

Probability of Presence (■)

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

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

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

Breeding Season (■)

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

Survey Effort (|)

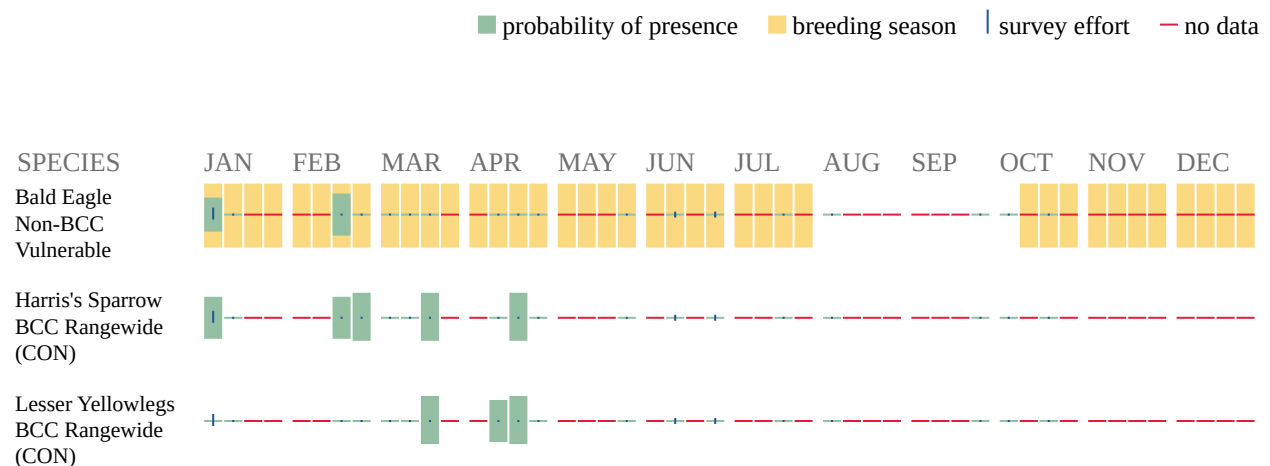
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

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

Survey Timeframe

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



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

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

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#)

may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

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

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

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

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

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

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

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities,

should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

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

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

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

RIVERINE

- [R4SBA](#)
-

Appendix F: Wetland Delineation Report



**KIRKHAM
MICHAEL**

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217 N Main St P.O. Box 164 • Cheney, KS
67025

Medicine Lodge Airport EA
Wetland Delineation Report
KM 2006240

Wetland and Waters of the United States Delineation Report

Medicine Lodge Airport EA Barber County, Kansas

KM Project #: 2006240



Prepared for:

City of Medicine Lodge

114 W First Avenue • Medicine Lodge, KS • 67104

February 2021



Wetlands and Waters of the United States Delineation Report Medicine Lodge Airport EA Barber County, KS

**Prepared for
City of Medicine Lodge**

**by
Kirkham, Michael and Associates**

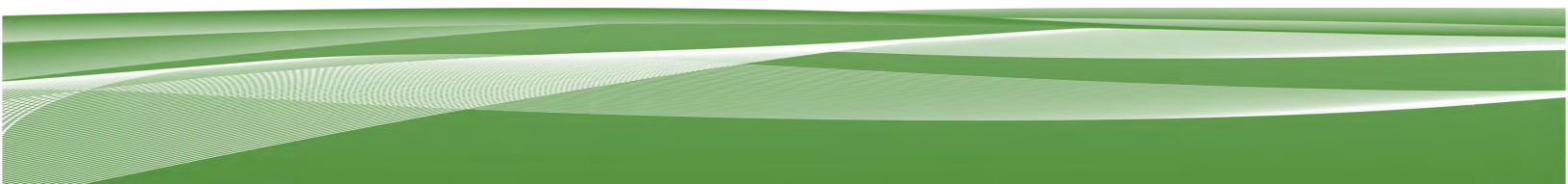




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Acronyms and Abbreviations

GIS	Geographic Information Service
NRCS	USDA Natural Resources Conservation Service
PLSS	Public Land Survey Service
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States
NWS	National Weather Service
RPW	Relatively Permanent Water
TNW	Traditional Navigable Water
OHWM	Ordinary High Water Mark
R2UBH	Riverine Lower Perennial Unconsolidated Bottom Permanently Flooded

Wetland Indicator Status

OBL	Obligate wetland
FACW	Facultative wetland
FAC	Facultative
FACU	Facultative upland
UPL	Obligate upland

Cowardin Wetland Classification System

PEMA	Palustrine Emergent Temporarily Flooded
PFOA	Palustrine Forested Temporarily Flooded



Executive Summary

This report outlines the results of the Wetland and Waters of the United States (WOTUS) field investigation performed for the Medicine Lodge Airport Environmental Assessment project. The investigation focused upon the wetlands and waters of the United States located within the project area.

Kirkham, Michael and Associates conducted the field investigation on October 7-8, 2020 to determine the presence and location of any WOTUS.

The United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) identified one wetland type within the project area: R2UBH.

Based on the field investigation, Kirkham, Michael and Associates found two PFOA wetlands within the project area. The total area extent of the delineated wetland areas was found to be 0.18431 acres.

Reliance

This report was prepared for the exclusive use and reliance of Medicine Lodge and has been prepared with generally accepted practices in the profession. If any changes to the nature of the project site or wetlands regulations as discussed in this report occur, the opinions of this report will no longer be considered valid pending review, modification, and verification by Kirkham, Michael and Associates. In general, the United States Army Corps of Engineers considers wetland delineation reports to be valid for a period of five years.

Project Description

The Project Area is located within Barber County within The Public Land Survey System (PLSS) information for the site is Section 8 and 17, Township 32 South, and Range 11 West. The proposed improvements include the following:

- Remove obstructions to comply with FAR Part 77 airspace surfaces as well as proposed Runway Safety Areas (RSA) and Object Free Areas (OFA)
- Rehabilitate Runway 16-34
- Acquire approximately 31.6 acres for AWOS easement
- Decommission and abandon north-south paved Runway 16-34;
- Abandon current terminal area and relocate facilities to the east and northwest of proposed Runway 18-36 to meet RSA & OFA standards;
- Construct a new Runway 18-36 (3,200' x 60') with aircraft turnarounds at each threshold; to replace Runway 16-34 and meet Airport Reference Code (ARC) B-I standards; including airfield lighting
- Install Precision Approach Path Indicators (PAPIs) and Runway End Identifier Lights (REILs) for Runway 18-36
- Develop new instrument approach procedures- Runway 18-36 RNAV (GPS)



- Decommission and abandon turf crosswind runway 13-31

See Figure 1- Project Location Map in Appendix A.

Desktop Review

In addition to the NWI investigation, a thorough desktop review was conducted to help identify any known Waters of the United States present on the project site. The United States Geological Survey (USGS) National Hydrography Dataset information was accessed for determination of stream channels and identified one stream, Rock River, within the project area. The full list of resources utilized during the desktop review is as follows:

- National Wetlands Inventory Map obtained from the United States Fish and Wildlife Service Wetlands Geodatabase (USFWS, 2020).
- National Hydrography Dataset obtained from the United States Geological Survey (USGS, 2020).
- Soil rating data obtained from the United States Department of Agriculture – National Resource Conservation Service Web Soil Survey (USDA-NRCS, 2019).
- Climate information for Medicine Lodge, KS obtained from the National Weather Service (NWS, 2020).

The hydric soil rating data investigation determined that the site consists of five main soil groups. Of these five, four have a hydric soil rating of 1-32. The other soil group found within the project area were considered non-hydric. These soil ratings are an indication of wetlands being on the site.

Table 1. Precipitation Data for Project Site

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct (as of Oct 8)	Total
Average (inches)	0.71	1.04	2.26	2.43	3.3	4.11	3.38	3.12	2.1	0.0	22.45
2020 (inches)	1.11	1.57	2.00	1.14	2.21	2.88	4.66	1.63	2.38	0.0	19.58

The climate information obtained for the project area comes from the National Weather Service Forecast Office, Medicine Lodge Station (NWS, 2020). Using the closest weather station with sufficient data, which is located within the City of Medicine Lodge. Overall, the 19.58 inches of rainfall occurring from January through October was 2.87 inches below the average. This means the site would have drier conditions than in a normal year.



Field Investigation

Kirkham, Michael and Associates carried out the field investigation of potential wetland areas in general accordance with the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (USACE, 1987) and the USACE Midwest Regional Supplement (USACE, 2010). Through this investigation, three potential wetland indicators were analyzed. These include:

1. Hydrophytic Vegetation Assessment
2. Hydric Soils Investigation
3. Wetland Hydrologic Characteristics

The hydrophytic vegetation assessment consisted of identifying and recording the dominant plant species in four separate strata. The strata include trees, shrubs, herbs, and woody vines. For each plant species, dominance was determined by visually estimating percent coverage within the corresponding plot sizes. Each individual plant species was assigned an indicator status using the USACE 2018 Regional Wetland Plant List for the Midwest Region (USACE, 2018).

The indication of a wetland area was determined using the dominance test and prevalence index, which compares the plant indicator statuses across all strata. The indicator statuses include Obligate Wetland (OBL), Facultative Wetland (FACW), Facultative (FAC), Facultative Upland (FACU), and Obligate Upland (UPL). The dominance test determines the percentage of plant species which are OBL, FACW, or FAC. If the percentage is greater than 50%, then this indicates the presence of a wetland. The prevalence index has different score ratings for each of the indicator statuses, with a prevalence index less than 3.0 indicating the presence of a wetland.

The USACE's general methodology for the determination of a wetland is that the area must have a positive indicator for each of the three wetland indicator parameters (hydrophytic vegetation, hydric soils, and wetland hydrology). Field observations for each of the sample points was recorded on the USACE Wetland Determination Data Forms which can be found in Appendix B.

Wetland sample points and boundaries were mapped in the field using a Trimble R1 GNSS Receiver with Arc GIS Collector capable of achieving sub-meter accuracy. These GPS points were then transferred to aerial imagery utilizing the ArcGIS 10.7 software. The delineation results are shown on Figure 2- WOTUS Delineation Map in Appendix A.

The 1987 Wetlands Delineation Manual: Procedure for Areas Greater than Five Acres was used to determine the presence of wetlands within the project area. This procedure includes establishing a baseline and determining transect placements. For this project, 3 transects were used. Sample points were placed along the transect to represent different plant communities. Random sample points were also used when different plant communities were found outside of the transect lines.



Findings

The field investigation conducted in October of 2020 identified Palustrine Forested Temporarily Flooded (PFOA) wetlands within the project area.

The PFOA wetland are represented by sample points R-1 and R-7. The upperstory of all the wetlands consisted of eastern cottonwood (*Populus deltoides*) and silver maple (*Acer saccharium*) The understory consisted of reed canarygrass and eastern poison ivy (*Toxicodendron radicans*) but most of the understory was bareground. Hydrology indicators consisted of Sparsely Vegetated Concave Surface, Geomorphic Position and FAC-Neutral Test. Hydric soil indicators observed were within the problematic soil indicators, Red Parent Material.

Wetlands S-3 and S-8 were found on the terraces above the channel. S-5 is north of the channel and connects down to the channel.

Jurisdictional Status- These wetlands are placed within historically upland areas with no connection to a jurisdictional waterway. A Jurisdictional Determination would need to be completed to determine the status of these wetlands.

Table 2. Summary Information of Wetlands Delineated at the Medicine Lodge Municipal Airport

Sample ID	Wetland Classification (Cowardin ¹)	Area (Acres) ²
R-1	PFOA	0.057095
R-7	PFOA	0.127217
Total		0.184312

PFOA= Palustrine Forested Temporarily Flooded

² Areas listed in Table 2 are based on the size of the mapped wetland area that lies within the investigation area. For example, for wetlands that are mapped beyond the approximate investigation limits, only the area of the mapped wetland that is within the investigation area was used for the above calculations.



References and Data Sources

Cowardin, L.M., Carter, V., Golet, F., and LaRoe, E. 1979. Classification of Wetlands and Deepwater Habitats of the United States; U.S. Department of Interior, Fish and Wildlife Service, FWS/OBS-79/31.

United States Army Corps of Engineers (USACE). 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

United States Army Corps of Engineers (USACE) Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual; Technical Report Y-87-1; U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi.

United States Army Corps of Engineers (USACE) Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2018. *The National Wetland Plant List: 2018 wetland ratings*. Phytoneuron 2016-30: 1-17.

United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS). Web Soil Survey. <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/survey/>. Accessed 10/26/2020.

United States Geological Survey (USGS). 2020. National Hydrography Dataset - <http://nhd.usgs.gov/>. Accessed 10/20/2020.

United States Fish and Wildlife Service (USFWS). 2020. National Wetlands Inventory Map. <http://www.fws.gov/wetlands/Data/Mapper.html>. Accessed 10/20/2020.

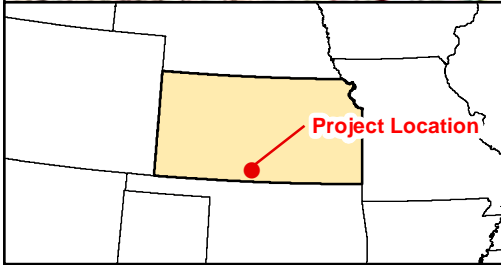
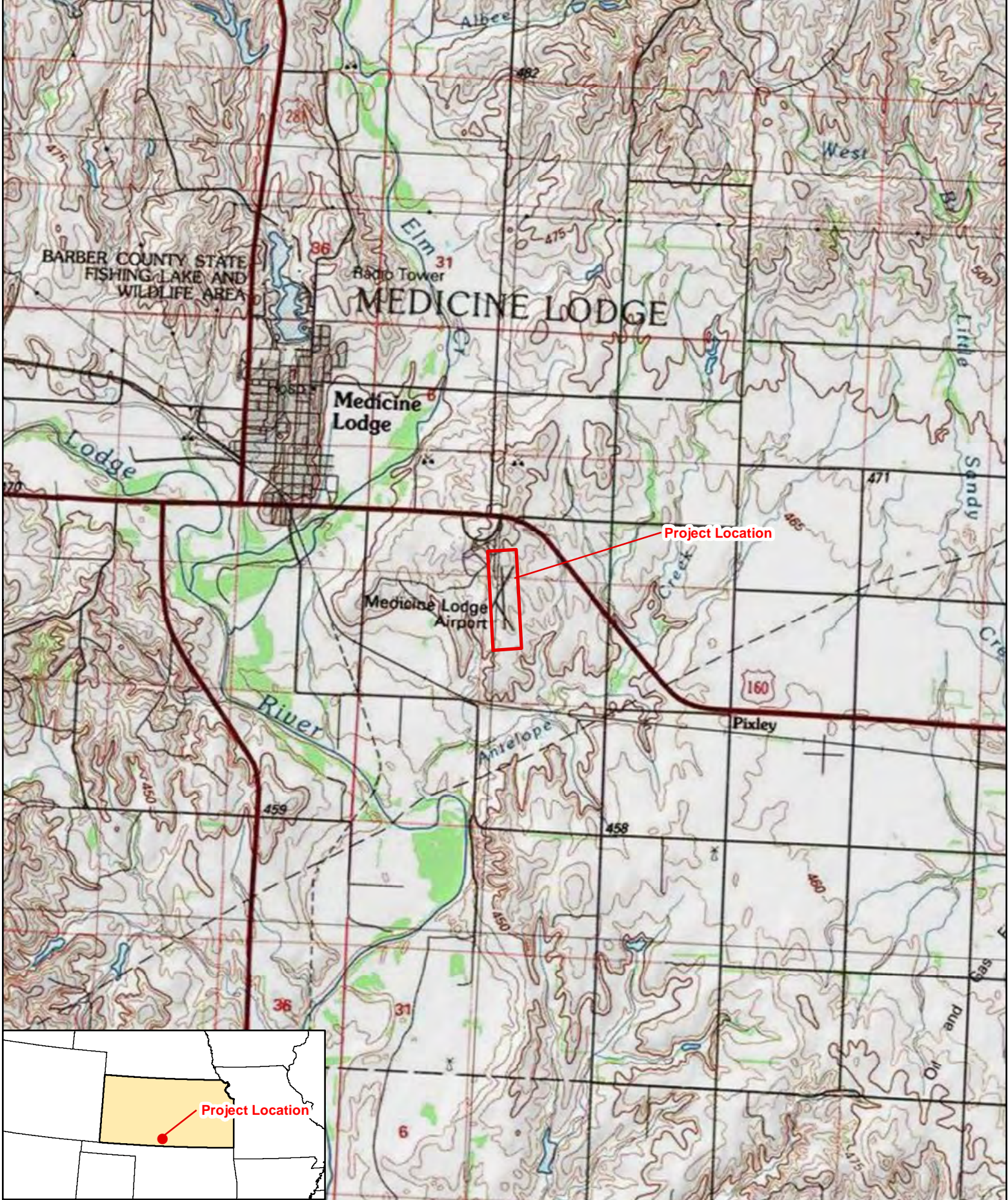
National Weather Service 2020. National Weather Service Forecast Office – Sioux Falls, SD. <http://www.weather.gov/climate/index.php?wfo=oax>. Accessed 10/30/2020.



Appendix A

Figures

- Figure 1- Project Location Map
- Figure 2- WOTUS Delineation Map

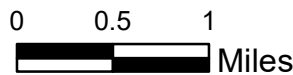


ESRI Basemap Imagery



FIGURE 1 - PROJECT LOCATION MAP

Medicine Lodge Airport EA
City of Medicine Lodge
Barber County, KS



KM Project No. 2006240

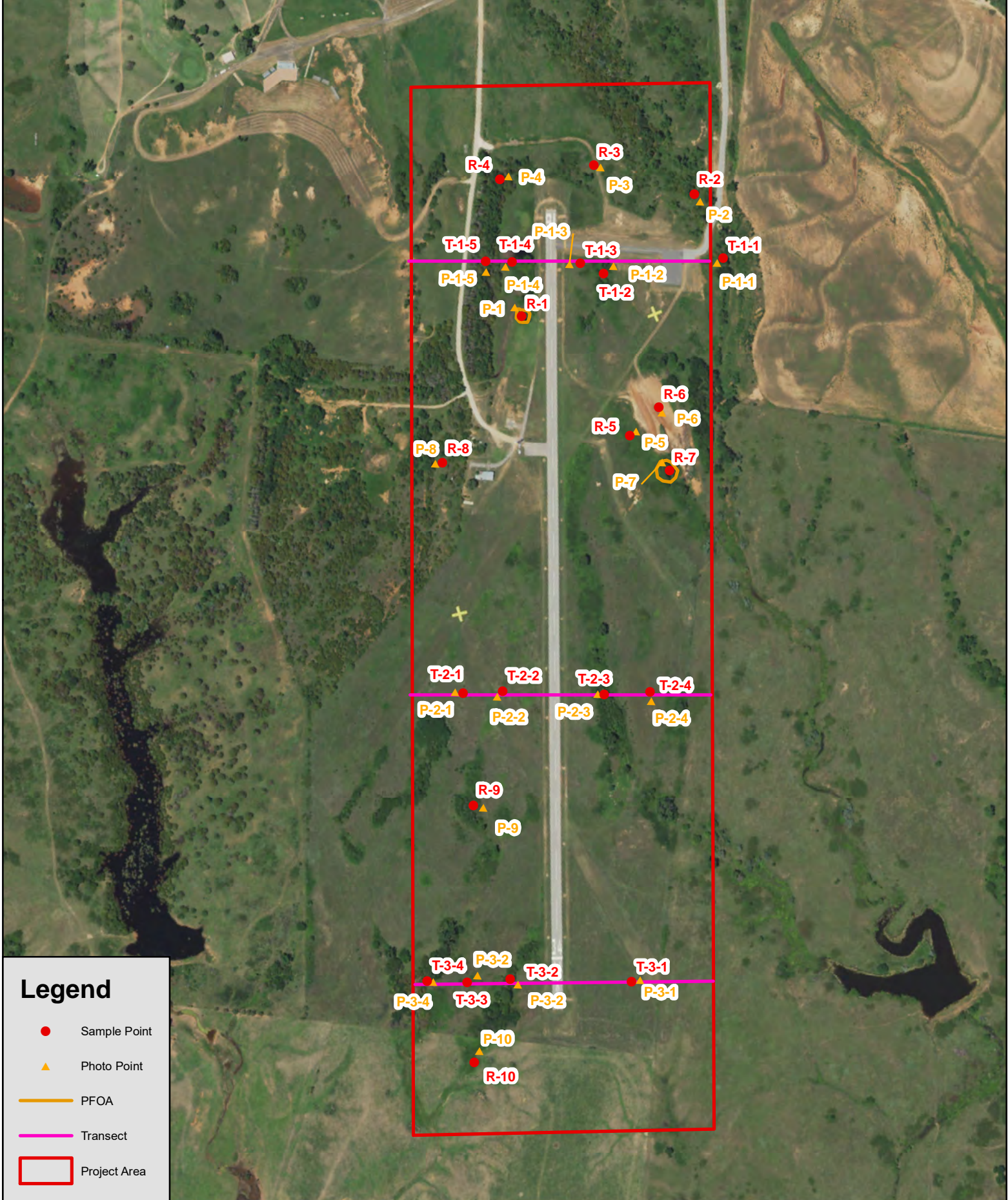
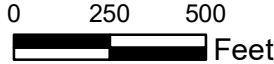


FIGURE 2 - WOTUS MAP

2019 NAIP Barber County Imagery





Appendix B

USACE Wetland Determination Data Forms

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-1-1
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (*hillslope, terrace, etc.*): Ditch Local Relief (*concave, convex, none*): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.270147 Long: -98.546113 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Point placed near NWI feature. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) <i>(excluding FAC-):</i> Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>10</u> x 5 = <u>50</u> Column Totals: <u>100</u> (A) <u>390</u> (B) Prevalence Index = B/A = <u>3.9</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Sorghastrum nutans</u>	<u>60</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Panicum virgatum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
3. <u>Conyza canadensis</u>	<u>10</u>		<u>UPL</u>	
4. <u>Ambrosia artemisiifolia</u>	<u>10</u>		<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-16	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-1-2
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.26985 Long: -98.54774 Datum: _____
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

Point placed on Transect 1 in wooded area. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Juniperus virginiana</u>	<u>25</u>	<u>X</u>	<u>UPL</u>	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>25</u> x 5 = <u>125</u> Column Totals: <u>65</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>4.384615385</u>
2. <u>Morus rubra</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Sorghastrum nutans</u>	<u>25</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>75</u>			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-12	10YR 3/3	80					SiL	
	7.5YR 5/6	20						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> X No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-1-3
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (*hillslope, terrace, etc.*): Flat Local Relief (*concave, convex, none*): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.269946 Long: -98.548071 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI 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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

Area near runway with no indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) <i>(excluding FAC-):</i> Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>100</u> (A) <u>430</u> (B) Prevalence Index = B/A = <u>4.3</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Ambrosia artemisiifolia</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Artemisia filifolia</u>	<u>30</u>	<u>X</u>	<u>UPL</u>	
3. <u>Schizachrium scoparium</u>	<u>25</u>	<u>X</u>	<u>FACU</u>	
4. <u>Symphotrichum ericoides</u>	<u>15</u>		<u>FACU</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-16	5YR 5/8	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-1-4
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Ditch Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.269884 Long: -98.549012 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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 type="checkbox"/>	No <input checked="" type="checkbox"/>		
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

Remarks:

Area between wooded areas on flat plain. No indicators were observed. This is the upland outpost for R-1.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Fraxinus americana</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>60</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>4.666666667</u>
2. <u>Phytolacca americana</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Bromus inermis</u>	<u>40</u>	<u>X</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1. Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2. Dominance Test is >50%. <input type="checkbox"/> 3. Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation (Explain)
2. <u>Helianthus annuus</u>	<u>10</u>	_____	<u>FACU</u>	
3. <u>Schizachrium scoparium</u>	<u>10</u>	_____	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>40</u>			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-15	10YR 3/2	100					SIC	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches) _____ **Wetland Hydrology Present?**

Water Table Present? Yes No Depth (inches) _____ **Yes X No**

Saturation Present? *(includes capillary fringe)* Yes No Depth (inches) _____

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-1-5
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (*hillslope, terrace, etc.*): _____ Local Relief (*concave, convex, none*): _____ Slope (%): 0-2
 Subregion (LRR): H Lat. 37.269863 Long: -98.549375 Datum: NAD 83
 Soil Map Unit Name: 5957- Shellabarger sandy loam, 3 to 6 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks:

Area along transect in wooded area. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	70	X	UPL
2. <u>Ulmus americana</u>	10		FAC
3. _____			
4. _____			
5. _____			
	80 = Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
	0 = Total Cover		
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Bromus inermis</u>	70	X	UPL
2. <u>Elymus canadensis</u>	15		FACU
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
0. _____			
	85 = Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
	0 = Total Cover		
% Bare Ground in Herb Stratum	15		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>0</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>2</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.00%</u>	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species <u>0</u>	x 1 =	<u>0</u>
FACW species <u>0</u>	x 2 =	<u>0</u>
FAC species <u>10</u>	x 3 =	<u>30</u>
FACU species <u>15</u>	x 4 =	<u>60</u>
UPL species <u>140</u>	x 5 =	<u>700</u>
Column Totals: <u>165</u>	(A)	<u>790</u> (B)
Prevalence Index = B/A = <u>4.787878788</u>		

Hydrophytic Vegetation Indicators:

_____ 1. Rapid Test for Hydrophytic Vegetation
 _____ 2. Dominance Test is >50%.
 _____ 3. Prevalence Index is ≤3.0¹
 _____ 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation (Explain)

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

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-15	10YR 4/3	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators <i>(minimum of one is required; check all that apply)</i>		Secondary Indicators <i>(minimum of two required)</i>	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<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"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)	
<input type="checkbox"/> Water-Stained Leaves (B9)			

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> X <input checked="" type="checkbox"/> No
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-2-1
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.265091 Long: -98.549108 Datum: NAD 83
 Soil Map Unit Name: 5495- Woodward-Quinlan loams, 1 to 3 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Area in flat area on Transect 2. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.33%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Juniperus virginiana</u>	<u>15</u>	<u>X</u>	<u>UPL</u>	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>60</u> x 4 = <u>240</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>115</u> (A) <u>465</u> (B) Prevalence Index = B/A = <u>4.043478261</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
15 = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Schizachrium scoparium</u>	<u>35</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Panicum virgatum</u>	<u>25</u>	<u>X</u>	<u>FAC</u>	
3. <u>Symphotrichum ericoides</u>	<u>15</u>	_____	<u>FACU</u>	
4. <u>Coryza canadensis</u>	<u>10</u>	_____	<u>UPL</u>	
5. <u>Schedonorus arundinaceus</u>	<u>10</u>	_____	<u>FACU</u>	
6. <u>Tragopogon dubius</u>	<u>5</u>	_____	<u>UPL</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
100 = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-12	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> X No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-2-2
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.265161 Long: -98.548569 Datum: NAD 83
 Soil Map Unit Name: 5495- Woodward-Quinlan loams, 1 to 3 percent slopes NWI Classification: None

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

Point near wooded area. No indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	15	X	UPL
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
15 = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Solidago missouriensis</u>	20	X	UPL
2. <u>Coryza canadensis</u>	20	X	UPL
3. <u>Ambrosia artemisiifolia</u>	15		FACU
4. <u>Tragopogon dubius</u>	15		UPL
5. <u>Schizachrium scoparium</u>	15		FACU
6. <u>Panicum virgatum</u>	15		FAC
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
0 = Total Cover			
% Bare Ground in Herb Stratum	<u>0</u>		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.00%</u> (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>15</u>	x 3 =	<u>45</u>
FACU species	<u>30</u>	x 4 =	<u>120</u>
UPL species	<u>70</u>	x 5 =	<u>350</u>
Column Totals:	<u>115</u> (A)		<u>515</u> (B)
Prevalence Index = B/A = <u>4.47826087</u>			

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test is >50%.
3. Prevalence Index is ≤3.0¹
4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation (Explain)

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

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-12	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Field Observations:

Surface Water Present?	Yes _____ No <u>X</u>	Depth (inches) _____	Wetland Hydrology Present? Yes _____ X No _____
Water Table Present?	Yes _____ No <u>X</u>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes _____ No <u>X</u>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-2-3
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.265231 Long: -98.547165 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Wooded area along transect. No indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	25	X	UPL
2. <u>Populus deltoides</u>	20	X	FAC
3. <u>Ulmus americana</u>	15	X	FAC
4. <u>Morus alba</u>	10		FACU
5. <u> </u>			
<u>70</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u> </u>			
2. <u> </u>			
3. <u> </u>			
4. <u> </u>			
5. <u> </u>			
<u>0</u> = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u> </u>			
2. <u> </u>			
3. <u> </u>			
4. <u> </u>			
5. <u> </u>			
6. <u> </u>			
7. <u> </u>			
8. <u> </u>			
9. <u> </u>			
0. <u> </u>			
<u>0</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u> </u>			
2. <u> </u>			
<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum <u>100</u>			

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 (excluding FAC-):
 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 <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>25</u>	x 5 = <u>125</u>
Column Totals: <u>70</u> (A)	<u>270</u> (B)
Prevalence Index = B/A = <u>3.857142857</u>	

Hydrophytic Vegetation Indicators:

- 1. Rapid Test for Hydrophytic Vegetation
- 2. Dominance Test is >50%.
- 3. Prevalence Index is ≤3.0¹
- 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-16	10YR 3/1	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches) _____ **Wetland Hydrology Present?**

Water Table Present? Yes No Depth (inches) _____ **Yes X No**

Saturation Present? *(includes capillary fringe)* Yes No Depth (inches) _____

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-2-4
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Plain Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.265311 Long: -98.54654 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u>	No <u>X</u>	
Hydric Soil Present?	Yes <u> </u>	No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u>	No <u>X</u>	

Remarks:
 Point on transect with no indicators observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>20</u> x 5 = <u>100</u> Column Totals: <u>100</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>4.2</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Dactylis glomerata</u>	<u>40</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Schizachrium scoparium</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
3. <u>Coryza canadensis</u>	<u>10</u>	_____	<u>UPL</u>	
4. <u>Ambrosia artemisiifolia</u>	<u>10</u>	_____	<u>FACU</u>	
5. <u>Symphotrichum ericoides</u>	<u>10</u>	_____	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

Remarks:
 No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-16	10YR 3/3	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches) _____ **Wetland Hydrology Present?**

Water Table Present? Yes No Depth (inches) _____ **Yes X No**

Saturation Present? *(includes capillary fringe)* Yes No Depth (inches) _____

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-3-1
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Plain Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.262106 Long: -98.546408 Datum: NAD 83
 Soil Map Unit Name: 5982- Nalim loam, 1 to 3 percent slopes NWI Classification: None

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 type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:

Point along transect with no indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schizachrium scoparium</u>	45	X	FACU
2. <u>Schedonorus arundinaceus</u>	30	X	FACU
3. <u>Symphytichum ericoides</u>	15		UPL
4. <u>Solidago missouriensis</u>	10		UPL
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
0 = Total Cover			
% Bare Ground in Herb Stratum <u>0</u>			

Dominance Test Worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species <u>0</u>	x 1 =	<u>0</u>
FACW species <u>0</u>	x 2 =	<u>0</u>
FAC species <u>0</u>	x 3 =	<u>0</u>
FACU species <u>75</u>	x 4 =	<u>300</u>
UPL species <u>25</u>	x 5 =	<u>125</u>
Column Totals: <u>100</u> (A)		<u>425</u> (B)
Prevalence Index = B/A = <u>4.25</u>		

Hydrophytic Vegetation Indicators:

_____ 1. Rapid Test for Hydrophytic Vegetation
 _____ 2. Dominance Test is >50%.
 _____ 3. Prevalence Index is ≤3.0¹
 _____ 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 _____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-14	10YR 3/2						SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes No Depth (inches) _____ **Wetland Hydrology Present?**

Water Table Present? Yes No Depth (inches) _____ **Yes X No**

Saturation Present? *(includes capillary fringe)* Yes No Depth (inches) _____

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-3-2
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Dip Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.262003 Long: -98.54808 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Point taken within small wooded area. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) <i>(excluding FAC-):</i> Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Juniperus virginiana</u>	<u>25</u>	<u>X</u>	<u>UPL</u>	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>70</u> x 4 = <u>280</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>125</u> (A) <u>555</u> (B) Prevalence Index = B/A = <u>4.44</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Sorghastrum nutans</u>	<u>60</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Solidago missouriensis</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
3. <u>Schizachrium scoparium</u>	<u>10</u>	_____	<u>FACU</u>	
4. <u>Physalis virginiana</u>	<u>10</u>	_____	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-12	10YR 4/4	100					SL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	³ Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	
<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 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"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Fauna (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Thin Muck Surface (C7)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches) _____ **Wetland Hydrology Present?**

Water Table Present? Yes No Depth (inches) _____ **Yes X No**

Saturation Present? *(includes capillary fringe)* Yes No Depth (inches) _____

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-3-3
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Plain Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.26192 Long: -98.548667 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Point along transect in between wooded areas. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)																																
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																				
1. _____	_____	_____	_____	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td></td> <td style="text-align: right;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td><u>0</u></td> <td>x 1 =</td> <td><u>0</u></td> </tr> <tr> <td>FACW species</td> <td><u>0</u></td> <td>x 2 =</td> <td><u>0</u></td> </tr> <tr> <td>FAC species</td> <td><u>15</u></td> <td>x 3 =</td> <td><u>45</u></td> </tr> <tr> <td>FACU species</td> <td><u>50</u></td> <td>x 4 =</td> <td><u>200</u></td> </tr> <tr> <td>UPL species</td> <td><u>20</u></td> <td>x 5 =</td> <td><u>100</u></td> </tr> <tr> <td>Column Totals:</td> <td><u>85</u> (A)</td> <td></td> <td><u>345</u> (B)</td> </tr> <tr> <td colspan="4" style="text-align: right;">Prevalence Index = B/A = <u>4.058823529</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>15</u>	x 3 =	<u>45</u>	FACU species	<u>50</u>	x 4 =	<u>200</u>	UPL species	<u>20</u>	x 5 =	<u>100</u>	Column Totals:	<u>85</u> (A)		<u>345</u> (B)	Prevalence Index = B/A = <u>4.058823529</u>			
Total % Cover of:		Multiply by:																																		
OBL species	<u>0</u>	x 1 =	<u>0</u>																																	
FACW species	<u>0</u>	x 2 =	<u>0</u>																																	
FAC species	<u>15</u>	x 3 =	<u>45</u>																																	
FACU species	<u>50</u>	x 4 =	<u>200</u>																																	
UPL species	<u>20</u>	x 5 =	<u>100</u>																																	
Column Totals:	<u>85</u> (A)		<u>345</u> (B)																																	
Prevalence Index = B/A = <u>4.058823529</u>																																				
2. _____	_____	_____	_____																																	
3. _____	_____	_____	_____																																	
4. _____	_____	_____	_____																																	
5. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
Herb Stratum (Plot size: <u>5</u>)																																				
1. <u>Schizachrium scoparium</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)																																
2. <u>Schedonorus arundinaceus</u>	<u>20</u>	<u>X</u>	<u>FACU</u>																																	
3. <u>Panicum virgatum</u>	<u>15</u>		<u>FAC</u>																																	
4. <u>Coryza canadensis</u>	<u>10</u>		<u>UPL</u>																																	
5. <u>Sporobolus heterolepis</u>	<u>5</u>		<u>UPL</u>																																	
6. <u>Opuntia fragilis</u>	<u>5</u>		<u>UPL</u>																																	
7. _____	_____	_____	_____																																	
8. _____	_____	_____	_____																																	
9. _____	_____	_____	_____																																	
10. _____	_____	_____	_____																																	
<u>85</u> = Total Cover																																				
Woody Vine Stratum (Plot size: <u>30</u>)																																				
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. _____	_____	_____	_____																																	
<u>0</u> = Total Cover																																				
% Bare Ground in Herb Stratum	<u>15</u>																																			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-14	10YR 4/4	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: T-3-4
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.261896 Long: -98.549218 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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 type="checkbox"/>	No <input checked="" type="checkbox"/>		
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

Remarks:

Point taken in wooded areas. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	15	X	UPL
2. <u>Ulmus americana</u>	8	X	FAC
3. <u>Populus deltoides</u>	8	X	FAC
4. _____			
5. _____			
<u>31</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	15	X	UPL
2. _____			
3. _____			
4. _____			
5. _____			
<u>15</u> = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Sorghastrum nutans</u>	30	X	FACU
2. <u>Panicum virgatum</u>	30	X	FAC
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
0. _____			
<u>60</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum	<u>40</u>		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>3</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>6</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>50.00%</u>	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	<u>0</u> x 1 = <u>0</u>
FACW species <u>0</u>	<u>0</u> x 2 = <u>0</u>
FAC species <u>46</u>	<u>46</u> x 3 = <u>138</u>
FACU species <u>30</u>	<u>30</u> x 4 = <u>120</u>
UPL species <u>30</u>	<u>30</u> x 5 = <u>150</u>
Column Totals: <u>106</u> (A)	<u>408</u> (B)
Prevalence Index = B/A = <u>3.849056604</u>	

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation

2. Dominance Test is >50%.

3. Prevalence Index is ≤3.0¹

4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-13	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: *(if observed)*

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches) _____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/7/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-1
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): _____
 Subregion (LRR): H Lat. 37.269299 Long: -98.548806 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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 <input type="checkbox"/>		
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Remarks:
 Random point placed in PFOA wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix amygdaloides</u>	35	X	FACW
2. _____			
3. _____			
4. _____			
5. _____			
	35 = Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
	0 = Total Cover		
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Phalaris arundinacea</u>	15	X	FACW
2. <u>Toxicodendron radicans</u>	10	X	FACU
3. <u>Sorghastrum nutans</u>	5		FACU
4. _____			
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
0. _____			
	30 = Total Cover		
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
	0 = Total Cover		
% Bare Ground in Herb Stratum	70		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>2</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>3</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66.67%</u>	(A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	0 x 1 =	0
FACW species	50 x 2 =	100
FAC species	0 x 3 =	0
FACU species	15 x 4 =	60
UPL species	0 x 5 =	0
Column Totals:	<u>65</u> (A)	<u>160</u> (B)
Prevalence Index = B/A = <u>2.461538462</u>		

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
 2. Dominance Test is >50%.
 3. Prevalence Index is ≤3.0¹
 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No

Remarks:
 Hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-12	7.5YR 4/4	94	10YR 2/1	6	D	PL	SIL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input checked="" type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 Hydric soils were observed with a problematic hydric soil indicator. This area is highly disturbed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input checked="" type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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Remarks:
 Two secondary indicators were observed which meets the criteria for wetland hydrology.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-2
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): _____
 Subregion (LRR): H Lat. 37.270819 Long: -98.5466 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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 <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		

Remarks:
 Random point in depressional area. One indicator was observed. This area was not considered a wetland.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>X</u>	<u>UPL</u>
2. <u>Ulmus americana</u>	<u>15</u>	<u>X</u>	<u>FAC</u>
3. _____			
4. _____			
5. _____			
<u>35</u> = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>X</u>	<u>UPL</u>
2. <u>Ulmus americana</u>	<u>10</u>	<u>X</u>	<u>FAC</u>
3. _____			
4. _____			
5. _____			
<u>30</u> = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Ambrosia artemisiifolia</u>	<u>30</u>	<u>X</u>	<u>FACU</u>
2. <u>Panicum virgatum</u>	<u>30</u>	<u>X</u>	<u>FAC</u>
3. <u>Verbena urticifolia</u>	<u>25</u>	<u>X</u>	<u>FAC</u>
4. <u>Asclepias syriaca</u>	<u>5</u>		<u>UPL</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
0. _____			
<u>90</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
<u>0</u> = Total Cover			
% Bare Ground in Herb Stratum	<u>10</u>		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>4</u>	(A)
Total Number of Dominant Species Across All Strata:	<u>7</u>	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>57.14%</u>	(A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>80</u>	x 3 =	<u>240</u>
FACU species	<u>30</u>	x 4 =	<u>120</u>
UPL species	<u>45</u>	x 5 =	<u>225</u>
Column Totals:	<u>155</u>	(A)	<u>585</u>
Prevalence Index = B/A =		<u>3.774193548</u>	

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test is >50%.
3. Prevalence Index is ≤3.0¹
4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation (Explain)

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

Remarks:
 The Dominance Test was met.

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 ¹	Loc ²		
0-14	10YR 4/3	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Type: _____	
Depth (inches): _____	

Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:					
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	Wetland Hydrology Present? Yes <input type="checkbox"/> X <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	

Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-3
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): LL Slope (%): _____
 Subregion (LRR): H Lat. 37.271034 Long: -98.548019 Datum: NAD 83
 Soil Map Unit Name: 5957- Shellabarger sandy loam, 3 to 6 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks:

Random point placed in mixed vegetation.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>30</u> x 4 = <u>120</u> UPL species <u>70</u> x 5 = <u>350</u> Column Totals: <u>100</u> (A) <u>470</u> (B) Prevalence Index = B/A = <u>4.7</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Erichloa villosa</u>	<u>40</u>	<u>X</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Ambrosia artemisiifolia</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
3. <u>Centaurea solstitialis</u>	<u>15</u>		<u>UPL</u>	
4. <u>Helianthus annuus</u>	<u>15</u>		<u>UPL</u>	
5. <u>Dactylis glomerata</u>	<u>10</u>		<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			Hydrophytic Vegetation Present? Yes _____ No <u>X</u>

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-16	10YR 3/3	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
 No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? _____ Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
 No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-4
 Investigator(s): K. Sherman Section, Township, Range: S.08, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Dip Local Relief (concave, convex, none): CL Slope (%): _____
 Subregion (LRR): H Lat. 37.270778 Long: -98.54929 Datum: NAD 83
 Soil Map Unit Name: 5957- Shellabarger sandy loam, 3 to 6 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland?	Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>		
Wetland Hydrology Present?	Yes _____ No <u>X</u>		

Remarks:

Random point in wooded area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Juniperus virginiana</u>	<u>80</u>	<u>X</u>	<u>UPL</u>	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) <i>(excluding FAC-):</i> Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.00%</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>80</u> = Total Cover																				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>80</u></td> <td>x 5 = <u>400</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>510</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.636363636</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>80</u>	x 5 = <u>400</u>	Column Totals: <u>110</u> (A)	<u>510</u> (B)	Prevalence Index = B/A = <u>4.636363636</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>10</u>	x 3 = <u>30</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>80</u>	x 5 = <u>400</u>																			
Column Totals: <u>110</u> (A)	<u>510</u> (B)																			
Prevalence Index = B/A = <u>4.636363636</u>																				
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Ambrosia artemisiifolia</u>	<u>10</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)																
2. <u>Schizachrium scoparium</u>	<u>10</u>	<u>X</u>	<u>FACU</u>																	
3. <u>Panicum virgatum</u>	<u>10</u>	<u>X</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
<u>30</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
% Bare Ground in Herb Stratum	<u>70</u>																			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-14	10YR 4/3	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
 No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Water-Stained Leaves (B9)		

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
 No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-5
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Plain Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.268103 Long: -98.547162 Datum: NAD 83
 Soil Map Unit Name: 5443- Quinlan loam, 1 to 3 percent slopes MLRA 78C NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:
 Random point in mixed vegetation. Upland outpost for R-7.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)			
1. <u>Salix interior</u>	10	X	FACW
2. <u>Cornus drummondii</u>	10	X	FAC
3. <u>Rhus glabra</u>	10	X	UPL
4. _____	_____	_____	_____
5. _____	_____	_____	_____
30 = Total Cover			
Herb Stratum (Plot size: <u>5</u>)			
1. <u>Solidago gigantea</u>	35	X	FAC
2. <u>Unknown red berry</u>	30	X	_____
3. <u>Panicum rigidulum</u>	15	_____	FACW
4. <u>Panicum virgatum</u>	10	_____	FAC
5. <u>Sorghastrum nutans</u>	10	_____	FACU
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
0 = Total Cover			
% Bare Ground in Herb Stratum	<u>0</u>		

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>3</u> (A)
Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>60.00%</u> (A/B)

Prevalence Index Worksheet:

Total % Cover of:	Multiply by:	
OBL species	0 x 1 =	0
FACW species	25 x 2 =	50
FAC species	55 x 3 =	165
FACU species	10 x 4 =	40
UPL species	10 x 5 =	50
Column Totals:	<u>100</u> (A)	<u>305</u> (B)
Prevalence Index = B/A =		3.05

Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test is >50%.
3. Prevalence Index is ≤3.0¹
4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:
 No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-8	10YR 5/8	100					SiCL	Reddish brown
8-14	10YR 4/4	100					SiCL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-6
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.268445 Long: -98.546802 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks)
 Are Vegetation X, Soil X, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No X
 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 <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Very disturbed area with problematic vegetation and soils.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = <u>0</u> FACW species _____ x 2 = <u>0</u> FAC species _____ x 3 = <u>0</u> FACU species _____ x 4 = <u>0</u> UPL species _____ x 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>#DIV/0!</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Panicum virgatum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
2. <u>Trifolium repens</u>	<u>20</u>	<u>X</u>	<u>FACU</u>	
3. <u>Ambrosia artemisiifolia</u>	<u>8</u>		<u>FACU</u>	
4. <u>Setaria viridis</u>	<u>7</u>		<u>UPL</u>	
5. <u>Centaurea solstitialis</u>	<u>5</u>		<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>60</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>40</u>			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-3	10YR 5/8	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:
 Very compact soils were observed. No deeper than 3 inches could be observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:
 No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-7
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Depression Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.267763 Long: -98.546573 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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 <input type="checkbox"/>		
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>		

Remarks:

PFOA wetland in depressional area. All three indicators were observed, but soils had a problematic indicator.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Salix amygdaloides</u>	30	X	FACW	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75.00%</u> (A/B)
2. <u>Populus deltoides</u>	30	X	FAC	
3. _____				
4. _____				
5. _____				
<u>60</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>10</u> x 4 = <u>40</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>85</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>2.588235294</u>
2. _____				
3. _____				
4. _____				
5. _____				
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Phalaris arundinacea</u>	15	X	FACW	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Toxicodendron radicans</u>	10	X	FACU	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>25</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____				
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>75</u>				

Remarks:

Hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-8	7.5YR 4/4	95	10YR 2/1	5	D	PL	SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input checked="" type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	³ Indicators of hydrophylic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)	

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--	---

Remarks:
 Hydric soils were observed with a problematic hydric soil indicator. This area is highly disturbed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input checked="" type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input checked="" type="checkbox"/> Geomorphic Position (D2)
	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:	
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____
	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Remarks:
 Three secondary indicators were observed which meets the criteria for wetland hydrology.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-8
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Slope Local Relief (concave, convex, none): VL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.2676 Long: -98.549701 Datum: NAD 83
 Soil Map Unit Name: 5457- Quinlan-Woodward loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>		
Hydric Soil Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Random point in wooded area. No indicators were observed.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
0 = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Juniperus virginiana</u>	15	X	UPL
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
15 = Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Schizachyrium scoparium</u>	40	X	FACU
2. <u>Erichloa villosa</u>	30	X	UPL
3. <u>Panicum rigidulum</u>	20	X	FACW
4. <u>Symphotrichum ericoides</u>	10		UPL
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
100 = Total Cover			
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
0 = Total Cover			
% Bare Ground in Herb Stratum		<u>0</u>	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: (excluding FAC-):	<u>1</u> (A)
Total Number of Dominant Species Across All Strata:	<u>4</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>25.00%</u> (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>20</u>	x 2 =	<u>40</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>40</u>	x 4 =	<u>160</u>
UPL species	<u>55</u>	x 5 =	<u>275</u>
Column Totals:	<u>115</u> (A)		<u>475</u> (B)
Prevalence Index = B/A = <u>4.130434783</u>			

Hydrophytic Vegetation Indicators:

____ 1. Rapid Test for Hydrophytic Vegetation

____ 2. Dominance Test is >50%.

____ 3. Prevalence Index is ≤3.0¹

____ 4. Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation (Explain)

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

Hydrophytic Vegetation Present? Yes No X

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-6	7.5YR 4/4	100					SiL	
6-12	10YR 3/4	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-9
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Flat Local Relief (concave, convex, none): LL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.263873 Long: -98.548818 Datum: NAD 83
 Soil Map Unit Name: 5495- Woodward-Quinlan loams, 1 to 3 percent slopes NWI Classification: None

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 type="checkbox"/>	No <input checked="" type="checkbox"/>		
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>		

Remarks:

Point in wooded area with no indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Juniperus virginiana</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>75</u> x 4 = <u>300</u> UPL species <u>30</u> x 5 = <u>150</u> Column Totals: <u>130</u> (A) <u>525</u> (B) Prevalence Index = B/A = <u>4.038461538</u>
2. <u>Rhus glabra</u>	<u>10</u>	<u>X</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>30</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Sorghastrum nutans</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Panicum virgatum</u>	<u>25</u>	<u>X</u>	<u>FAC</u>	
3. <u>Schedonorus arundinaceus</u>	<u>25</u>	<u>X</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-8	10YR 3/4	100					SiL	
8-12	10YR 3/2	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Remarks:
No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> (where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____ Saturation Present? <i>(includes capillary fringe)</i> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches) _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
No hydrology indicators were observed.

Wetland Determination Data Form - Great Plains Region

Project/Site: Medicine Lodge Airport City/County: Medicine Lodge Sampling Date: 10/8/2020
 Applicant/Owner: City of Medicine Lodge State: KS Sampling Point: R-10
 Investigator(s): K. Sherman Section, Township, Range: S.17, T.32S, R.11W
 Landform (hillslope, terrace, etc.): Dip Local Relief (concave, convex, none): CL Slope (%): 0-2
 Subregion (LRR): H Lat. 37.261055 Long: -98.548466 Datum: NAD 83
 Soil Map Unit Name: 5850- Albion and Shellabarger sandy loams, 6 to 15 percent slopes NWI Classification: None

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

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

Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland?	Yes <u> </u> No <u>X</u>
Hydric Soil Present?	Yes <u> </u> No <u>X</u>		
Wetland Hydrology Present?	Yes <u> </u> No <u>X</u>		

Remarks:

Point placed outside fence in small depressional area. No indicators.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) (excluding FAC-): Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.00%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>40</u> x 4 = <u>160</u> UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>100</u> (A) <u>420</u> (B) Prevalence Index = B/A = <u>4.2</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Sorghastrum nutans</u>	<u>40</u>	<u>X</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1. Rapid Test for Hydrophytic Vegetation _____ 2. Dominance Test is >50%. _____ 3. Prevalence Index is ≤3.0 ¹ _____ 4. Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation (Explain)
2. <u>Eriogonum annuum</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
3. <u>Eriochloa villosa</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
4. <u>Panicum virgatum</u>	<u>20</u>	<u>X</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>100</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum	<u>0</u>			Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>

Remarks:

No hydrophytic vegetation indicators were observed.

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 ¹	Loc ²		
0-15	10YR 3/3	100					SiL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)		

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

Restrictive Layer: <i>(if observed)</i> Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
--	---

Remarks:
 No hydric soil indicators were observed.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators <i>(minimum of one is required; check all that apply)</i>	Secondary Indicators <i>(minimum of two required)</i>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	
	<input type="checkbox"/> Surface Soil Cracks (B6)
	<input type="checkbox"/> Sparsley Vegetated Concave Surf. (B8)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:					
Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	Wetland Hydrology Present?
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	
Saturation Present? <i>(includes capillary fringe)</i>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches)	_____	
					Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:
 No hydrology indicators were observed.



Appendix C

Site Photo Log



Photo 1-1. View northeast of point on Transect 1.



Photo 1-2. View southwest of point in small wooded area on Transect 1.



Photo 1-3. View south of upland area on Transect 1.



Photo 1-4. View east of upland outpost for R-1.



Photo 1-5. View north of wooded area at western boundary of project area.



Photo 2-1. View east of upland point on Transect 2.



Photo 2-2. View northeast of upland point.



Photo 2-3. View north of wooded area along Transect 2.



Photo 2-4. View north of upland area.



Photo 3-1. View southwest of upland along Transect 3.



Photo 3-2. View northwest of upland area.



Photo 3-3. View south of upland area along Transect 3.



Photo 3-4. View west of wooded area on Transect 3.



Photo 1. View southeast of PFOA area.



Photo 2. View west of area with mixed vegetation.



Photo 3. View west of upland at the north boundary.



Photo 4. View southwest of wooded area.



Photo 5. View southwest of upland outpost for R-7.



Photo 6. View northwest of upland area.



Photo 7. View southeast of PFOA wetland in depressional area.



Photo 8. View east of upland area.



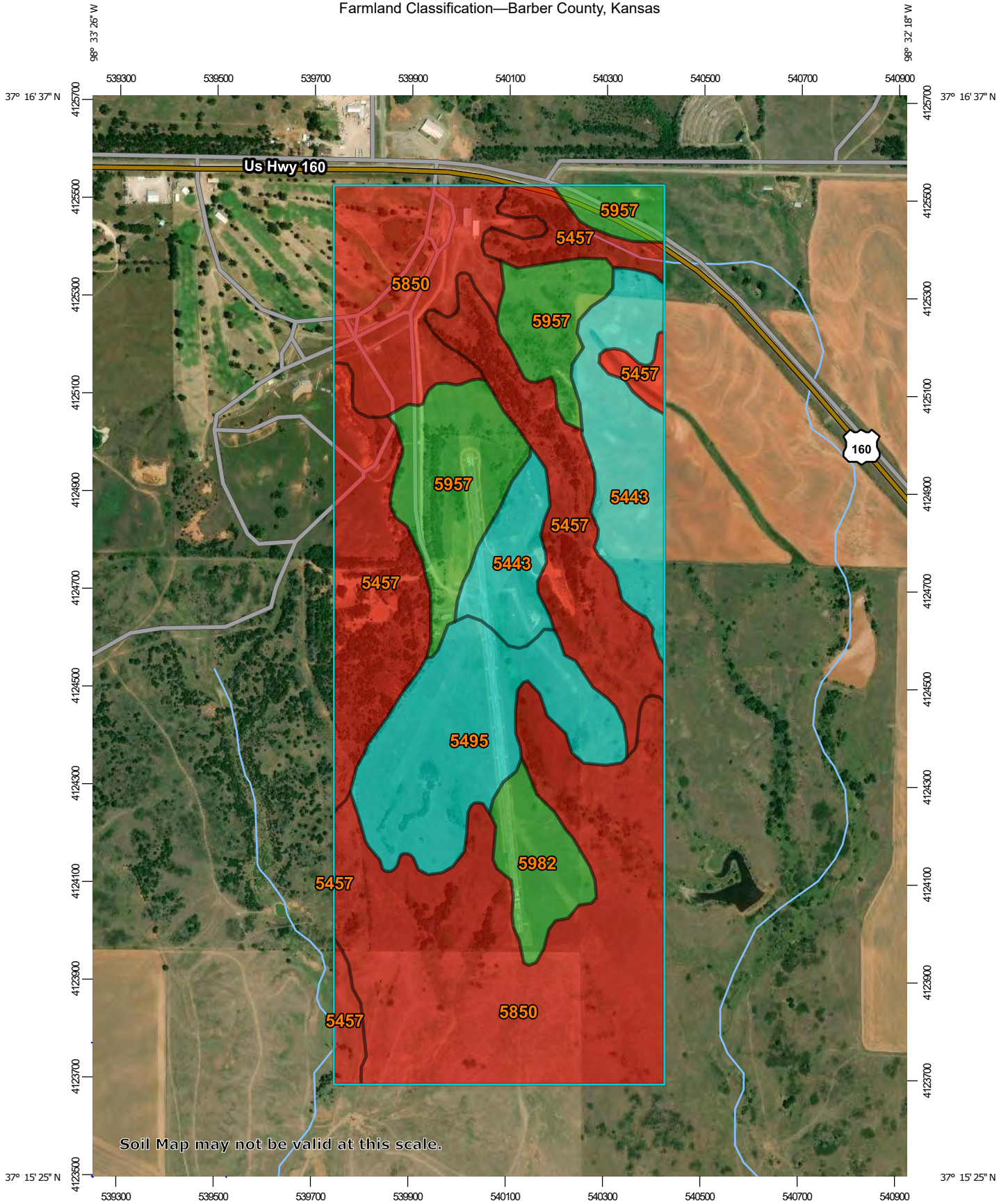
Photo 9. View southwest of upland area.



Photo 10. View south of upland area outside airport boundary.

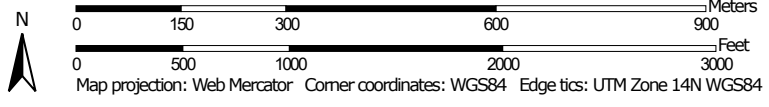
Appendix G: Farmlands

Farmland Classification—Barber County, Kansas




Soil Map may not be valid at this scale.

Map Scale: 1:10,800 if printed on A portrait (8.5" x 11") sheet.











MAP LEGEND








Area of Interest (AOI)






-  Area of Interest (AOI)








Soils



Soil Rating Polygons

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season









-  Prime farmland if subsoiled, completely removing the root inhibiting soil layer
-  Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
-  Prime farmland if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance
-  Farmland of statewide importance, if drained
-  Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated

-  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if irrigated and drained
-  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
-  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60


































-  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
-  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
-  Farmland of statewide importance, if warm enough
-  Farmland of statewide importance, if thawed
-  Farmland of local importance
-  Farmland of local importance, if irrigated

-  Farmland of unique importance
-  Not rated or not available




















Soil Rating Lines

-  Not prime farmland
-  All areas are prime farmland
-  Prime farmland if drained
-  Prime farmland if protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated
-  Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
-  Prime farmland if irrigated and drained
-  Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season

Farmland Classification—Barber County, Kansas

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

Farmland Classification—Barber County, Kansas

<ul style="list-style-type: none">  Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season  Farmland of statewide importance, if irrigated and drained  Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season  Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer  Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60 	<ul style="list-style-type: none">  Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium  Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season  Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season  Farmland of statewide importance, if warm enough  Farmland of statewide importance, if thawed  Farmland of local importance  Farmland of local importance, if irrigated 	<ul style="list-style-type: none">  Farmland of unique importance  Not rated or not available <p>Water Features</p> <ul style="list-style-type: none">  Streams and Canals <p>Transportation</p> <ul style="list-style-type: none">  Rails  Interstate Highways  US Routes  Major Roads  Local Roads <p>Background</p> <ul style="list-style-type: none">  Aerial Photography 	<p>The soil surveys that comprise your AOI were mapped at 1:24,000.</p> <div style="border: 1px solid black; padding: 5px; margin: 5px 0;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Barber County, Kansas Survey Area Data: Version 17, Sep 13, 2021</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Aug 16, 2014—Jul 21, 2017</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>
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Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
5443	Quinlan loam, 1 to 3 percent slopes MLRA 78C	Farmland of statewide importance	34.7	11.2%
5457	Quinlan-Woodward loams, 6 to 15 percent slopes	Not prime farmland	69.8	22.5%
5495	Woodward-Quinlan loams, 1 to 3 percent slopes	Farmland of statewide importance	37.1	12.0%
5850	Albion and Shellabarger sandy loams, 6 to 15 percent slopes	Not prime farmland	119.2	38.4%
5957	Shellabarger sandy loam, 3 to 6 percent slopes	All areas are prime farmland	37.5	12.1%
5982	Nalim loam, 1 to 3 percent slopes	All areas are prime farmland	11.8	3.8%
Totals for Area of Interest			310.1	100.0%

Description

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

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

FARMLAND CONVERSION IMPACT RATING

PART I <i>(To be completed by Federal Agency)</i>		Date Of Land Evaluation Request			
Name of Project		Federal Agency Involved			
Proposed Land Use		County and State			
PART II <i>(To be completed by NRCS)</i>		Date Request Received By NRCS		Person Completing Form:	
Does the site contain Prime, Unique, Statewide or Local Important Farmland? <i>(If no, the FPPA does not apply - do not complete additional parts of this form)</i>		YES <input type="checkbox"/>	NO <input type="checkbox"/>	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %	Amount of Farmland As Defined in FPPA Acres: %			
Name of Land Evaluation System Used	Name of State or Local Site Assessment System	Date Land Evaluation Returned by NRCS			
PART III <i>(To be completed by Federal Agency)</i>		Alternative Site Rating			
		Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly					
B. Total Acres To Be Converted Indirectly					
C. Total Acres In Site					
PART IV <i>(To be completed by NRCS)</i> Land Evaluation Information					
A. Total Acres Prime And Unique Farmland					
B. Total Acres Statewide Important or Local Important Farmland					
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted					
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value					
PART V <i>(To be completed by NRCS)</i> Land Evaluation Criterion Relative Value of Farmland To Be Converted (Scale of 0 to 100 Points)					
PART VI <i>(To be completed by Federal Agency)</i> Site Assessment Criteria <i>(Criteria are explained in 7 CFR 658.5 b. For Corridor project use form NRCS-CPA-106)</i>		Maximum Points	Site A	Site B	Site C
1. Area In Non-urban Use		(15)			
2. Perimeter In Non-urban Use		(10)			
3. Percent Of Site Being Farmed		(20)			
4. Protection Provided By State and Local Government		(20)			
5. Distance From Urban Built-up Area		(15)			
6. Distance To Urban Support Services		(15)			
7. Size Of Present Farm Unit Compared To Average		(10)			
8. Creation Of Non-farmable Farmland		(10)			
9. Availability Of Farm Support Services		(5)			
10. On-Farm Investments		(20)			
11. Effects Of Conversion On Farm Support Services		(10)			
12. Compatibility With Existing Agricultural Use		(10)			
TOTAL SITE ASSESSMENT POINTS		160			
PART VII <i>(To be completed by Federal Agency)</i>					
Relative Value Of Farmland <i>(From Part V)</i>		100			
Total Site Assessment <i>(From Part VI above or local site assessment)</i>		160			
TOTAL POINTS <i>(Total of above 2 lines)</i>		260			
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? YES <input type="checkbox"/> NO <input type="checkbox"/>			
Reason For Selection:					
Name of Federal agency representative completing this form:					Date:

(See Instructions on reverse side)

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

- Step 1 - Federal agencies (or Federally funded projects) involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form. For Corridor type projects, the Federal agency shall use form NRCS-CPA-106 in place of form AD-1006. The Land Evaluation and Site Assessment (LESA) process may also be accessed by visiting the FPPA website, <http://fppa.nrcs.usda.gov/lesa/>.
- Step 2 - Originator (Federal Agency) will send one original copy of the form together with appropriate scaled maps indicating location(s) of project site(s), to the Natural Resources Conservation Service (NRCS) local Field Office or USDA Service Center and retain a copy for their files. (NRCS has offices in most counties in the U.S. The USDA Office Information Locator may be found at http://offices.usda.gov/scripts/ndISAPI.dll/oip_public/USA_map, or the offices can usually be found in the Phone Book under U.S. Government, Department of Agriculture. A list of field offices is available from the NRCS State Conservationist and State Office in each State.)
- Step 3 - NRCS will, within 10 working days after receipt of the completed form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland. (When a site visit or land evaluation system design is needed, NRCS will respond within 30 working days.
- Step 4 - For sites where farmland covered by the FPPA will be converted by the proposed project, NRCS will complete Parts II, IV and V of the form.
- Step 5 - NRCS will return the original copy of the form to the Federal agency involved in the project, and retain a file copy for NRCS records.
- Step 6 - The Federal agency involved in the proposed project will complete Parts VI and VII of the form and return the form with the final selected site to the servicing NRCS office.
- Step 7 - The Federal agency providing financial or technical assistance to the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

(For Federal Agency)

Part I: When completing the "County and State" questions, list all the local governments that are responsible for local land use controls where site(s) are to be evaluated.

Part III: When completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them or other major change in the ability to use the land for agriculture.
2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities planned build out capacity) that will cause a direct conversion.

Part VI: Do not complete Part VI using the standard format if a State or Local site assessment is used. With local and NRCS assistance, use the local Land Evaluation and Site Assessment (LESA).

1. Assign the maximum points for each site assessment criterion as shown in § 658.5(b) of CFR. In cases of corridor-type project such as transportation, power line and flood control, criteria #5 and #6 will not apply and will, be weighted zero, however, criterion #8 will be weighed a maximum of 25 points and criterion #11 a maximum of 25 points.
2. Federal agencies may assign relative weights among the 12 site assessment criteria other than those shown on the FPPA rule after submitting individual agency FPPA policy for review and comment to NRCS. In all cases where other weights are assigned, relative adjustments must be made to maintain the maximum total points at 160. For project sites where the total points equal or exceed 160, consider alternative actions, as appropriate, that could reduce adverse impacts (e.g. Alternative Sites, Modifications or Mitigation).

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, convert the site assessment points to a base of 160.

Example: if the Site Assessment maximum is 200 points, and the alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site A}$$

For assistance in completing this form or FPPA process, contact the local NRCS Field Office or USDA Service Center.

NRCS employees, consult the FPPA Manual and/or policy for additional instructions to complete the AD-1006 form.