U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.gov
espanol.hud.gov

Environmental Assessment
Determinations and Compliance Findings
for HUD-assisted Projects
24 CFR Part 58

Project Information

Project Name: 105-Michigan-Street

HEROS Number: 900000010234467

Responsible Entity (RE): LAWRENCE, PO Box 708 Lawrence KS, 66044

RE Preparer: Danelle Walters

State / Local Identifier:

Certifying Officer: Craig S. Owens

Grant Recipient (if different than Responsible Entity):

Point of Contact:

Consultant (if applicable):

Point of Contact:

Project Location: 105 Michigan St, Lawrence, KS 66044

Additional Location Information:
N/A

Direct Comments to: City of Lawrence
Planning and Development Services

1 Riverfront Plaza, Suite 320
Lawrence, KS 66044
dwalters@lawrenceks.org

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:

Tenants To Homeowners will purchase this 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Each of these lots would make use of the Affordable Housing Density Bonus. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot is vacant and the other lot has been previously developed.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

The proposed property currently hosts a vacant 3-bedroom ranch home suffering from deferred maintenance. The home will be razed to allow for re-plat and development of six new homes. Through the Affordable Housing Density Bonus, increased density is permitted by-right in RS7 zoning in cases of permanent affordability. This project will create six units (15 bedrooms) in a location that is close to public transit, an elementary school, grocery, Bert Nash Community Mental Health Center, Lawrence Memorial Hospital, and Heartland Community Health Center. The development will be a great benefit for six low-moderate income households. Four of these units will be homeownership and two will be rentals. In a single infill project, this project will create workforce homeownership, very low-income supported rental housing, energy-efficiency, increased density, and successfully implementing responsive design to meet the need. The goal would be to provide advantage to those who need affordable housing, while ensuring no disadvantage to the surrounding area because it will be high-quality, new construction infill that matches the neighborhood and provides a sustainable mixture of housing types and incomes served.

Existing Conditions and Trends [24 CFR 58.40(a)]:

The project will occur as infill development in a residential neighborhood. The project site is close to services such as public transit, an elementary school, grocery, Bert Nash Community Mental Health Center, Lawrence Memorial Hospital, and Heartland Community Health Center. According to the Lawrence Board of Realtors, a total of 80 homes were listed on the MLS for Lawrence in December of 2021, and the median sales process was $280,000 which was up just over 14% from just one year ago. The median days on the market was five days, which was down from 14 a year ago. Of those 80 units, only 12 were listed at $150,000 and under. There is currently only .7 months of inventory available, making it incredible difficult for a low-income household to buy on the market. Adding six units to the market and having them in the Lawrence Community Housing Trust will be an impactful result to the low-income household with an ability and a desire to purchase a home.

Maps, photographs, and other documentation of project location and description:

Determination:

✓	Finding of No Significant Impact [24 CFR 58.40(g)(1); 40 CFR 1508.13] The project will not result in a significant impact on the quality of human environment
	Finding of Significant Impact

Approval Documents:
Signature Pages 105 Michigan Street.pdf

7015.15 certified by Certifying Officer on:

7015.16 certified by Authorizing Officer on:

Funding Information

Grant / Project Identification Number	HUD Program	Program Name
M-21-MC-20-0205	Community Planning and Development (CPD)	HOME Program

Estimated Total HUD Funded, Assisted or Insured Amount: $100,000.00

Estimated Total Project Cost [24 CFR 58.2 (a)(5)]: $1,210,000.00

Compliance with 24 CFR §50.4, §58.5 and §58.6 Laws and Authorities

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §50.4, §58.5, and §58.6	Are formal compliance steps or mitigation required?	Compliance determination (See Appendix A for source determinations)
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.6		
Airport Hazards Clear Zones and Accident Potential Zones; 24 CFR Part 51 Subpart D	☐ Yes ☑ No	The project site is not within 15,000 feet of a military airport or within 2,500 feet of a civilian airport. Maps are attached showing a 15,000 foot buffer around

		Lawrence, a map showing a 2,500 foot buffer around the project site and the civilian Lawrence Regional Airport, and a map of the location of the Runway Protection Zones. The project is in compliance with Airport Hazards requirements. See attached Airport Hazards Worksheet packet.
Coastal Barrier Resources Act Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	☐ Yes ☑ No	According to a review of the U.S. Fish and Wildlife Service Coastal Barrier Resources System Mapper, the project is located in a state that does not contain CBRS units. Therefore, this project is in compliance with the Coastal Barrier Resources Act. Attached is a map showing the location of CBRS units in the United States and a list of the states that contain CBRS units.
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	☐ Yes ☑ No	The structure and insurable property are not located in a FEMA-designated Special Flood Hazard Area. Attached is FEMA/FIRMette map 20045C0157E (eff. 9/2/2015). While flood insurance may not be mandatory in this instance, HUD recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). The project is in compliance with flood insurance requirements.
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR §50.4 & § 58.5		
Air Quality Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	☐ Yes ☑ No	According to the U.S. EPA Green Book and NEPAssist, the project site is not located within a nonattainment or maintenance area for any National Ambient Air Quality Standard (NAAQS) criteria air pollutants. Attached is a map of the City of Lawrence showing no nonattainment or maintenance areas. Also attached is the EPA Kansas Nonattainment/Maintenance Status for Each County for All Criteria Pollutants (as of December 31, 2021), indicating that Douglas County, KS is not on the list. Demolition activities will require

		asbestos abatement prior to demolition as required by KDHE and local regulations. The project's county or air quality management district is in attainment status for all criteria pollutants. The project is in compliance with the Clean Air Act.
Coastal Zone Management Act Coastal Zone Management Act, sections 307(c) & (d)	☐ Yes ☑ No	The project is located in a state that does not participate in the Coastal Zone Management Program. Therefore, this project is in compliance with the Coastal Zone Management Program. Attached is the NOAA Office for Coastal Management list of states that participate in the Coastal Zone Management Program; Kansas is not listed.
Contamination and Toxic Substances 24 CFR 50.3(i) & 58.5(i)(2)]	☐ Yes ☑ No	Solid Ground Environmental performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas. The assessment revealed no evidence of recognized environmental conditions in connection with the subject property. Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability. See attached Phase I ESA. The project is in compliance with contamination and toxic substances requirements.
Endangered Species Act Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	☐ Yes ☑ No	This project May Affect, but is Not Likely to Adversely Affect, listed species, and informal consultation was conducted. This project is in compliance with the Endangered Species Act without mitigation. Concurrence with the Kansas Department of Fish and Wildlife on 3/01/2022.

Explosive and Flammable Hazards Above-Ground Tanks)[24 CFR Part 51 Subpart C	☐ Yes ☑ No	There are five current stationary aboveground storage containers of concern within 1 mile of the project site. There is a 13,500 gallon Carbon Dioxide AST located 2,189' to the SE at 720 W 3rd Street. The Acceptable Separation Distance (ASD) for Thermal Radiation for People is 817.89' and the ASD for Thermal Radiation for Buildings is 167.48'. There is a 10,000 gallon Fuel Oil #2 AST located 2,202' to the NW at 101 McDonald Drive. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'. There is a 10,000 gallon Diesel AST located 2,656' to the N at 345 N Michigan Street. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'. There is a 500 gallon Used Oil AST located 4,686' to the NE at 2201 Kresge Road. The ASD for Thermal Radiation for People is 207.20' and the ASD for Thermal Radiation for Buildings is 36.50'. There is a 1,000 gallon Diesel AST located 5,211' to the SE at 1 Riverfront Plaza. The ASD for Thermal Radiation for People is 276.57' and the ASD for Thermal Radiation for Buildings is 50.28'. The Separation Distances from the project are acceptable. There are no planned stationary aboveground storage containers of concern within 1 mile of the project site. The project is in compliance with explosive and flammable hazard requirements.
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	☐ Yes ☑ No	According to NEPAssist, the project site is located in an urbanized area, and based on the project description, the project does not include new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Policy

		Act. See attached Farmlands Protection Worksheet packet.
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	☐ Yes ☑ No	This project does not occur in a floodplain. The project is in compliance with Executive Order 11988. See attached FEMA/FIRMette map 20045C0157E (effective 9/2/15).
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	☐ Yes ☑ No	Based on Section 106 consultation the project will have No Adverse Effect on historic properties. Conditions: None. Upon satisfactory implementation of the conditions, which should be monitored, the project is in compliance with Section 106. See attached Historic Preservation Worksheet packet.
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	☐ Yes ☑ No	A Preliminary Screening was performed, and found the following: The Lawrence Regional Airport (LWC) is located within 15 miles of the project site. The attached Lawrence Regional Airport Master Plan Noise Exposure Contour maps indicate that the 65 DNL noise contour does not extend off airport property and does not affect any noise-sensitive land uses. Using the attached FAA Airport Master Record for LWC and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the airport. The Vinland Valley Aerodrome (K64) is located within 15 miles of the project site. Using the attached FAA Airport Master Record for K64 and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the airport. The project site is not within 1,000 ft of a major road. The project is within 3,000 ft of a railroad; 2,076 ft from BNSF/Amtrak. The nearest U.S. DOT Crossing Inventory Form was used in calculating the combined DNL for all sources. A Noise Assessment was conducted. The noise

		level was acceptable: 53.0 db. See noise analysis. The project is in compliance with HUD's Noise regulation.
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	☐ Yes ☑ No	The project is not located on a sole source aquifer area. The State of Kansas currently has no designated Sole Source Aquifers according to EPA Region 7 Drinking Water/Ground Water Branch, and the EPA.gov webpage map for Sole Source Aquifers. The project is in compliance with Sole Source Aquifer requirements. Attached are maps indicating there are no Sole Source Aquifers located in the jurisdiction or the State.
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	☐ Yes ☑ No	The project will not impact on- or off-site wetlands. The project is in compliance with Executive Order 11990. See attached National Wetlands Inventory map of the project site and surrounding areas.
Wild and Scenic Rivers Act Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	☐ Yes ☑ No	There are no Wild and Scenic Rivers designated in the state of Kansas. (Source: National Wild and Scenic Rivers System website); per the same site, there are no active or pending river studies in Kansas. Per the National Rivers Inventory system, there is one river in Douglas County on the list. The Kansas River NRI River Segment. The Outstandingly Remarkable Values of this river segment are listed as: Cultural, Fish, Recreational, Scenic, and Wildlife. Per HUD's Wild and Scenic Rivers website: Boundaries for protected rivers generally extend one-quarter mile from either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values. The project site is not located in a .25-mile proximity of the Kansas River NRI River Segment, therefore no adverse effects will occur. The project is not a water resources project that could affect the free-flowing condition of the river. The

		project is in compliance with the Wild and Scenic Rivers Act. See attached Wild and Scenic Rivers Worksheet packet.
HUD HOUSING ENVIRONMENTAL STANDARDS		
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	☐ Yes ☑ No	No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898.

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Impact Codes: An impact code from the following list has been used to make the determination of impact for each factor.
(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement.

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
LAND DEVELOPMENT			
Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	1	The project is consistent with land use and zoning. The property is zoned RS7 Single-Dwelling Residential District and the project must meet the City's Subdivision Regulations prior to development. The proposed project is consistent with the goals outlined in Chapter 3 of Plan 2040 regarding Growth & Development, prioritizing infill development, as well as Chapter 4 of Plan 2040 regarding affordable housing initiatives. The scale of the project will be compatible with the neighborhood, and building and design criteria will meet the 2018 International Building Code.	
Soil Suitability / Slope/ Erosion / Drainage and Storm Water Runoff	2	The project site is located in a flat and developed area of the city. The attached soil map survey indicates the property is comprised of Woodson silt	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
LAND DEVELOPMENT			
		loam, 1 to 3 percent slopes. New construction must conform to the City's Land Development Code as it pertains to erosion control, drainage, and storm water mitigation.	
Hazards and Nuisances including Site Safety and Site-Generated Noise	2	The project site is not adversely affected by on-site or off-site hazards or nuisances. The neighborhood is a well-established residential area and is in compliance with contamination and toxic substances requirements and noise control requirements. Construction noise will be minimal and temporary.	
Energy Consumption/Energy Efficiency	2	The project proposes to construct 6 new single-family homes that must comply with currently adopted Building and Energy Conservation Codes. There will be no adverse impacts to energy consumption or efficiency. The area is currently served by Evergy & Black Hills Energy.	
SOCIOECONOMIC			
Employment and Income Patterns	1	The proposed action would create temporary employment during the construction phase.	
Demographic Character Changes / Displacement	2	There will be no displacement or adverse impacts to the demographics of the community.	
COMMUNITY FACILITIES AND SERVICES			
Educational and Cultural Facilities (Access and Capacity)	2	There will be no adverse impacts on the accessibility or capacity of educational and cultural facilities that serve the project site or the community in general. The project site is in close proximity to schools and has adequate and safe access facilities.	
Commercial Facilities (Access and Proximity)	2	The project site is located blocks from neighborhood and community retail, less than 2 miles from grocery stores, and less than 5 miles from a regional retail area. Project is located along	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
LAND DEVELOPMENT			
		public transit routes and adjacent to transit stops which will accommodate travel to facilities not within walking distance.	
Health Care / Social Services (Access and Capacity)	2	The project site is within a block of Lawrence Memorial Hospital and a variety of medical offices and community health services. The proposed project will not have an adverse impact on the capacity of health care or social services.	
Solid Waste Disposal and Recycling (Feasibility and Capacity)	2	The City of Lawrence provides residential solid waste and recycling services that will be available to the project site during and after construction. The scale of this project will not exceed the capacity of the solid waste or recycling programs.	
Waste Water and Sanitary Sewers (Feasibility and Capacity)	2	The project site will be served by existing municipal waste water and sanitary sewer infrastructure. The proposed project will not have an adverse impact on the capacity of waste water or sanitary sewer systems.	
Water Supply (Feasibility and Capacity)	2	The City of Lawrence supplies water to the project site. The municipal water supply is safe and adequate to supply the proposed project.	
Public Safety - Police, Fire and Emergency Medical	2	The project site is served by City of Lawrence Police & Fire/Medical departments. Compliance with fire codes will be required before a building permit can be obtained. The project is located a block from the local hospital and will not have an adverse impact on public safety or place an increased burden on police, fire, or emergency medical personnel.	
Parks, Open Space and Recreation (Access and Capacity)	2	There will be no adverse impacts to the demand or availability of parks, open space or recreation as a result of this project. The project site is located within walking distance or less than 2	

Environmental Assessment Factor	Impact Code	Impact Evaluation	Mitigation
LAND DEVELOPMENT			
		miles from several parks, open space, and cultural resources, and 5.5 miles from Sports Pavilion Lawrence.	
Transportation and Accessibility (Access and Capacity)	2	The project site is developed and not located near any unique natural features and will have no negative impact on water resources.	
NATURAL FEATURES			
Unique Natural Features /Water Resources	2	The project site is developed and not located near any unique natural features and will have no negative impact on water resources.	
Vegetation / Wildlife (Introduction, Modification, Removal, Disruption, etc.)	2	Existing vegetation on the project site will see minimal disruption and construction activities must comply with all applicable City codes. The proposed project will have no adverse impacts on endangered species, critical habitats, or other resources.	
Other Factors		NA	

Supporting documentation
Soil Map 105 Michigan St.pdf

Additional Studies Performed:
Phase I Environmental Site Assessment Phase I Cultural Resources Survey

Field Inspection [Optional]: Date and completed by:

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]:
-Chris Thornton, U.S. Fish and Wildlife Service -Patrick Zollner, State Historic Preservation Office -Luke Morris, Osage Nation Historic Preservation Office -Solid Ground Environmental LLC -Kale Bruner, KB Archaeological Consulting -City of Lawrence Plan 2040

List of Permits Obtained:

The project will go through development review with the City of Lawrence. Building permits must be obtained before the project can begin.

Public Outreach [24 CFR 58.43]:

The Lawrence Journal World

Cumulative Impact Analysis [24 CFR 58.32]:

The proposed project will consist of six affordable homes with a total of 15 bedrooms on underutilized lots in a developed residential area of the community. Based on this information, the location of the project and proximity to services, utilities, and transportation, no impact on the environment is anticipated.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

The proposed construction is specific to this location and no alternatives were considered, as it creates no adverse environmental impacts.

No Action Alternative [24 CFR 58.40(e)]

Taking no action will result in fewer options for those seeking affordable single-family housing.

Summary of Findings and Conclusions:

The proposed project will have no adverse impact on the environment. It will have a positive impact on the community by creating safe and affordable housing.

Mitigation Measures and Conditions [CFR 1505.2(c)]:

Summarized below are all mitigation measures adopted by the Responsible Entity to reduce, avoid or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure or Condition	Comments on Completed Measures	Mitigation Plan	Complete

Project Mitigation Plan

N/A

Supporting documentation on completed measures

APPENDIX A: Related Federal Laws and Authorities

Airport Hazards

General policy	Legislation	Regulation
It is HUD's policy to apply standards to prevent incompatible development around civil airports and military airfields.		24 CFR Part 51 Subpart D

1. To ensure compatible land use development, you must determine your site's proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?

✓ **No**

Based on the response, the review is in compliance with this section. Document and upload the map showing that the site is not within the applicable distances to a military or civilian airport below

Yes

Screen Summary

Compliance Determination

The project site is not within 15,000 feet of a military airport or within 2,500 feet of a civilian airport. Maps are attached showing a 15,000 foot buffer around Lawrence, a map showing a 2,500 foot buffer around the project site and the civilian Lawrence Regional Airport, and a map of the location of the Runway Protection Zones. The project is in compliance with Airport Hazards requirements. See attached Airport Hazards Worksheet packet.

Supporting documentation

Airport Hazards Worksheet 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Airport Hazards (CEST and EA)

General policy	Legislation	Regulation
It is HUD's policy to apply standards to prevent incompatible development around civil airports and military airfields.		24 CFR Part 51 Subpart D
References		
https://www.hudexchange.info/environmental-review/airport-hazards		

1. **To ensure compatible land use development, you must determine your site's proximity to civil and military airports. Is your project within 15,000 feet of a military airport or 2,500 feet of a civilian airport?**

   ☒No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within the applicable distances to a military or civilian airport.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

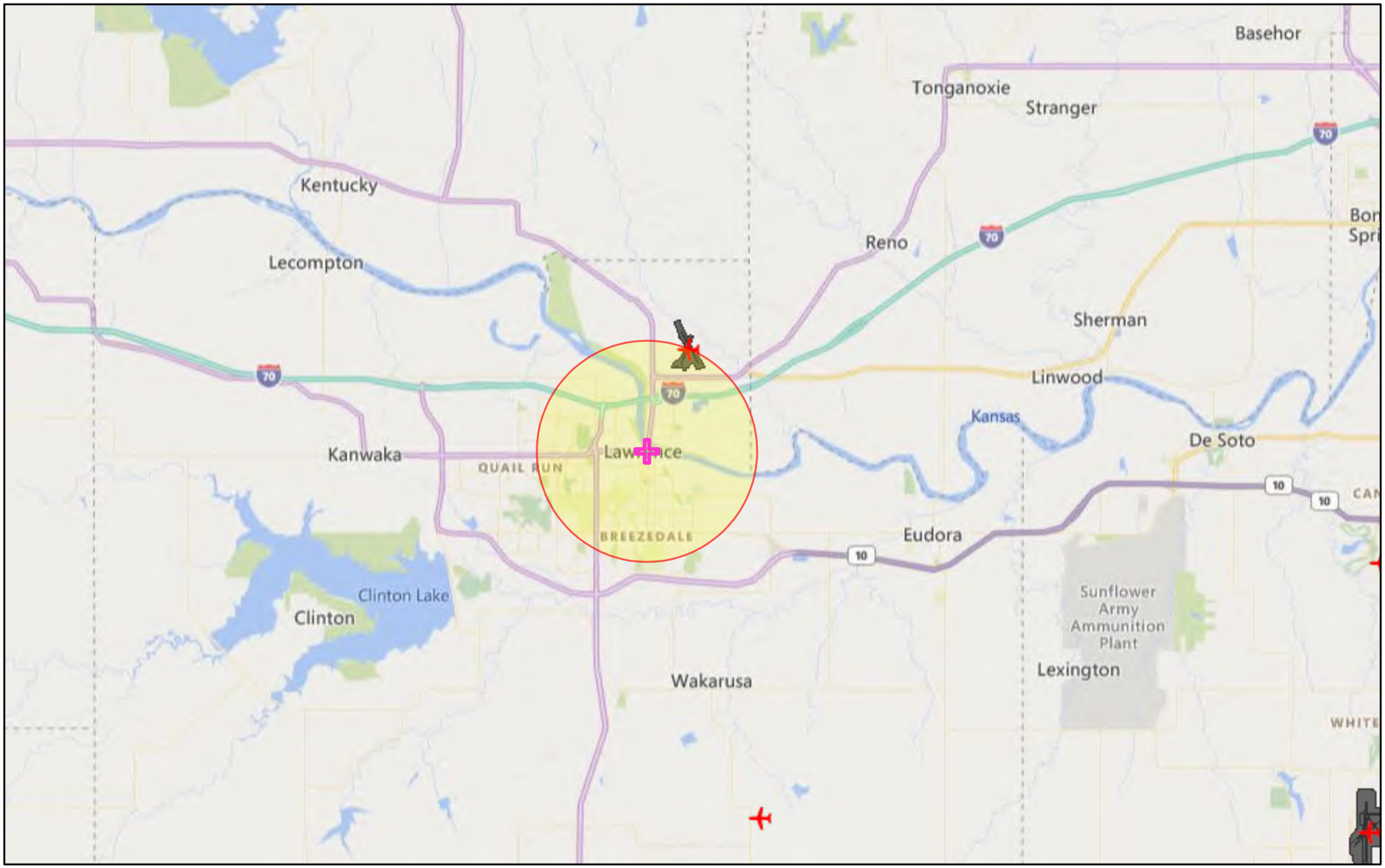
The project site is not within 15,000 feet of a military airport or within 2,500 feet of a civilian airport. Maps are attached showing a 15,000 foot buffer around Lawrence, a map showing a 2,500 foot buffer around the project site and the civilian Lawrence Regional Airport, and a map of the location of the Runway Protection Zones. The project is in compliance with Airport Hazards requirements. See attached Airport Hazards Worksheet packet.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Lawrence, KS - No Military Airports within 15,000'



October 1, 2021

Project Buffer

Airport Points

Lawrence, KS

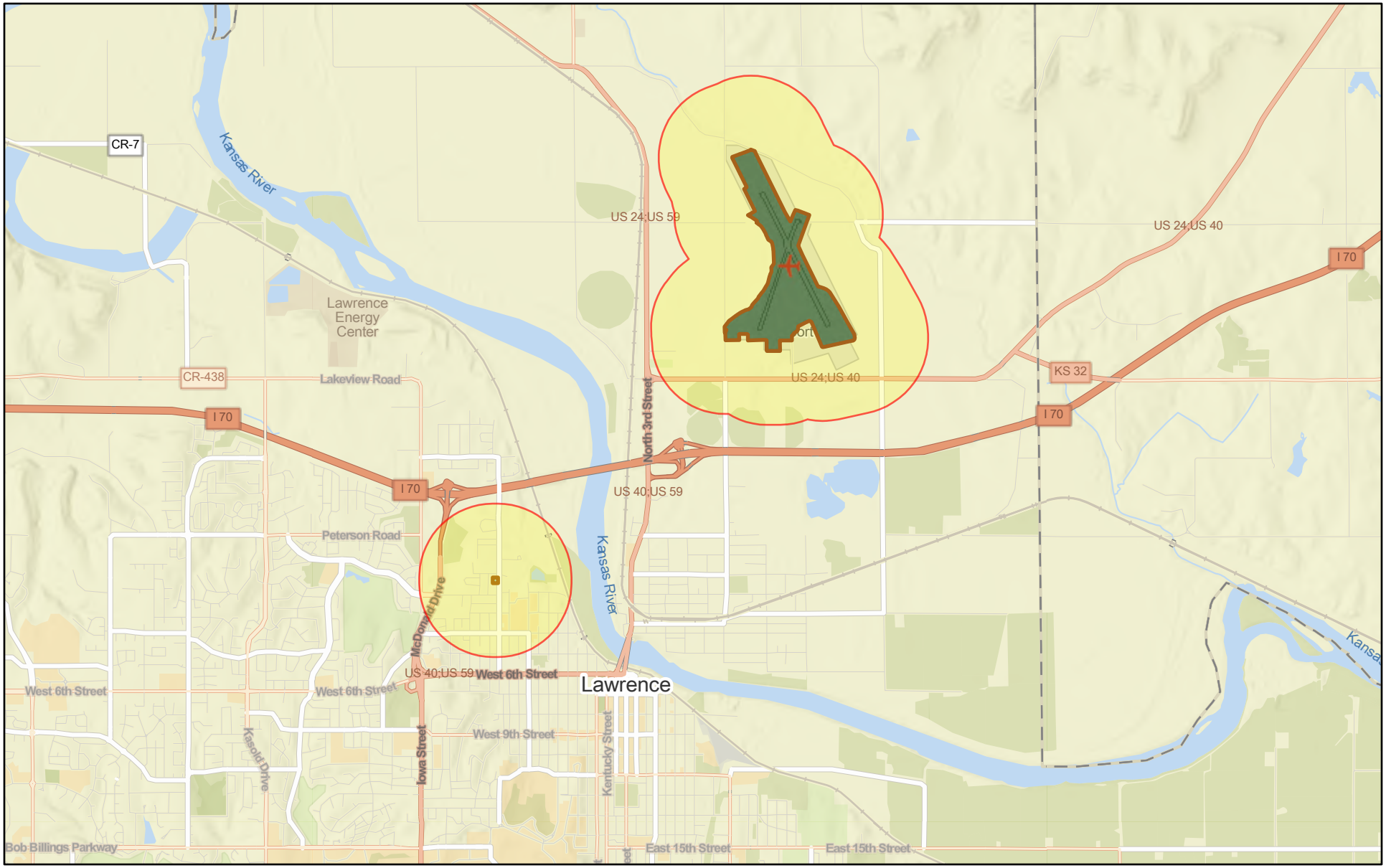
Airport Polygons

1:288,895

0 1.75 3.5 7 mi

0 3 6 12 km

105 Michigan Street Distance to Lawrence Regional Airport – 2,500' buffers



January 14, 2022

- Lawrence Regional Airport
- Project Buffer
- 105 Michigan St
- Airport Points
- Airport Polygons

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

10MP07-1E-10/18/10

LEGEND

- Airport Property Line
- Easement
- Runway Safety Area (RSA)
- Object Free Area (OFA)
- Runway Protection Zone (RPZ)

KEY

ASOS - Automated Surface Observation System
MALSR - Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
PAPI - Precision Approach Path Indicator
REIL - Runway End Identifier Lights

NORTH

0 1200 2400
SCALE IN FEET

DATE OF AERIAL: 9/03/10

Electrical Vault
Localizer
Windsock
Mud Creek
A4
A3
PAPI-4
REILs
Runway 15-33 (5,700'x100')
A
Windsock
PAPI-2
US 24/59
E 1500 Rd (N 7th St.)
Segmented Circle / Lighted Windsock
ASOS
Glideslope
PAPI-4
E 1600 Rd
Runway 1-19 (3,901'x75')
PAPI-2
D
A
Windsock
B
C
A2
Beacon
REILs
A1
Airport Rd.
Electrical Vault
MALSR
US 24/40
Middle Marker

City of Lawrence KANSAS

Exhibit 1E
AIRSIDE FACILITIES

Coastal Barrier Resources

General requirements	Legislation	Regulation
HUD financial assistance may not be used for most activities in units of the Coastal Barrier Resources System (CBRS). See 16 USC 3504 for limitations on federal expenditures affecting the CBRS.	Coastal Barrier Resources Act (CBRA) of 1982, as amended by the Coastal Barrier Improvement Act of 1990 (16 USC 3501)	

This project is located in a state that does not contain CBRA units. Therefore, this project is in compliance with the Coastal Barrier Resources Act.

Compliance Determination

According to a review of the U.S. Fish and Wildlife Service Coastal Barrier Resources System Mapper, the project is located in a state that does not contain CBRS units. Therefore, this project is in compliance with the Coastal Barrier Resources Act. Attached is a map showing the location of CBRS units in the United States and a list of the states that contain CBRS units.

Supporting documentation

Coastal Barrier Resources Worksheet Packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Coastal Barrier Resources (CEST and EA)

General requirements	Legislation	Regulation
HUD financial assistance may not be used for most activities in units of the Coastal Barrier Resources System (CBRS). See 16 USC 3504 for limitations on federal expenditures affecting the CBRS.	Coastal Barrier Resources Act (CBRA) of 1982, as amended by the Coastal Barrier Improvement Act of 1990 (16 USC 3501)	
References		
https://www.hudexchange.info/environmental-review/coastal-barrier-resources		

Projects located in the following states must complete this form.

Alabama	Georgia	Massachusetts	New Jersey	Puerto Rico	Virgin Islands
Connecticut	Louisiana	Michigan	New York	Rhode Island	Virginia
Delaware	Maine	Minnesota	North Carolina	South Carolina	Wisconsin
Florida	Maryland	Mississippi	Ohio	Texas	

1. Is the project located in a CBRS Unit?

☒No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a CBRS Unit.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

According to a review of the U.S. Fish and Wildlife Service Coastal Barrier Resources System Mapper, the project is located in a state that does not contain CBRS units. Therefore, this project is in compliance with the Coastal Barrier Resources Act. Attached is a map showing the location of CBRS units in the United States and a list of the states that contain CBRS units.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

U.S. Fish and Wildlife Service

Coastal Barrier Resources System

CBRS Units - Lawrence, KS

April 7, 2021

CBRS Units

This map is for general reference only. The Coastal Barrier Resources System (CBRS) boundaries depicted on this map are representations of the controlling CBRS boundaries, which are shown on the official maps, accessible at https://www.fws.gov/cbra/maps/index.html. All CBRS related data should be used in accordance with the layer metadata found on the CBRS Mapper website.

The CBRS Buffer Zone represents the area immediately adjacent to the CBRS boundary where users are advised to contact the Service for an official determination (http://www.fws.gov/cbra/Determinations.html) as to whether the property or project site is located "in" or "out" of the CBRS.

CBRS Units normally extend seaward out to the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS mapper.

Coastal Barrier Resources System

CBRS Menu

CBRS Home

Legislation & Testimony

Historical Changes

CBRA Prohibitions

Flood Insurance

Official Maps and Data +

Boundary Modifications

Mapping Projects +

CBRS Documentation

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Help and Contacts

Frequently Asked Questions

Glossary

Documents Library

Contact Us

For CBRA news, sign up for our listserv electronic mailing list

Official CBRS Maps

The Coastal Barrier Resources Act (CBRA) of 1982 and subsequent amendments established the John H. Chafee Coastal Barrier Resources System (CBRS). The CBRS consists of relatively undeveloped coastal barriers and other areas located the Atlantic, Gulf of Mexico, Great Lakes, U.S. Virgin Islands, and Puerto Rico coasts. The CBRS currently includes 585 System Units, which comprise nearly 1.4 million acres of land and associated aquatic habitat. There are also 277 "Otherwise Protected Areas," a category of coastal barriers that are mostly already held for conservation and/or recreation purposes that include an additional 2.1 million acres of land and associated aquatic habitat. The CBRS units are identified and depicted on a series of maps entitled “John H. Chafee Coastal Barrier Resources System.” These maps are controlling and indicate which lands are affected by the CBRA. The maps are maintained by the Department of the Interior through the U.S. Fish and Wildlife Service.

Viewing an Official CBRS Map

An official CBRS map can be obtained through the CBRS Mapper by following these steps:

- Locate the area of interest in the mapper
- Click on the location of interest. A pop-up window will open providing information for the area.
- In the pop-up window, click on the map link. A PDF of the official map will then open in a separate tab or download.

Alternatively, if the name or number of the CBRS unit is known, then the official CBRS maps can also be found in the table at: https://www.fws.gov/cbra/maps/cbrs/.

State Locator Maps

The below state locator maps show the locations of units in each state and may be helpful in determining a unit number.

Alabama	Georgia	Massachusetts	New Jersey	Ohio	Texas
Connecticut	Louisiana	Michigan	New York Great Lakes	Puerto Rico	Virgin Islands
Delaware	Maine	Minnesota	New York Long Island	Rhode Island	Virginia
Florida	Maryland	Mississippi	North Carolina	South Carolina	Wisconsin

Last updated: November 6, 2019

Flood Insurance

General requirements	Legislation	Regulation
Certain types of federal financial assistance may not be used in floodplains unless the community participates in National Flood Insurance Program and flood insurance is both obtained and maintained.	Flood Disaster Protection Act of 1973 as amended (42 USC 4001-4128)	24 CFR 50.4(b)(1) and 24 CFR 58.6(a) and (b); 24 CFR 55.1(b).

1. Does this project involve financial assistance for construction, rehabilitation, or acquisition of a mobile home, building, or insurable personal property?

No. This project does not require flood insurance or is excepted from flood insurance.

✓ Yes

2. Upload a FEMA/FIRM map showing the site here:

105 Michigan St FEMA FIRMette 20045C0157E effective 9-2-15.pdf

The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs). For projects in areas not mapped by FEMA, use the best available information to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site. Provide FEMA/FIRM floodplain zone designation, panel number, and date within your documentation.

Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?

✓ No

Based on the response, the review is in compliance with this section.

Yes

4. While flood insurance is not mandatory for this project, HUD strongly recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). Will flood insurance be required as a mitigation measure or condition?

Yes

✓ No

Screen Summary

Compliance Determination

The structure and insurable property are not located in a FEMA-designated Special Flood Hazard Area. Attached is FEMA/FIRMette map 20045C0157E (eff. 9/2/2015). While flood insurance may not be mandatory in this instance, HUD recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). The project is in compliance with flood insurance requirements.

Supporting documentation

Flood Insurance packet 105 Michigan St.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Flood Insurance (CEST and EA)

General requirements	Legislation	Regulation
Certain types of federal financial assistance may not be used in floodplains unless the community participates in National Flood Insurance Program and flood insurance is both obtained and maintained.	Flood Disaster Protection Act of 1973 as amended (42 USC 4001-4128)	24 CFR 50.4(b)(1) and 24 CFR 58.6(a) and (b); 24 CFR 55.1(b).
Reference		
https://www.hudexchange.info/environmental-review/flood-insurance		

1. **Does this project involve financial assistance for construction, rehabilitation, or acquisition of a mobile home, building, or insurable personal property?**
   ☒Yes → *Continue to Question 2.*

2. **Provide a FEMA/FIRM map showing the site.**
   The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs). For projects in areas not mapped by FEMA, use the best available information to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site. Provide FEMA/FIRM floodplain zone designation, panel number, and date within your documentation.

   Is the structure, part of the structure, or insurable property located in a FEMA-designated Special Flood Hazard Area?
   ☒No → *Continue to the Worksheet Summary.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

The structure and insurable property are not located in a FEMA-designated Special Flood Hazard Area. Attached is FEMA/FIRMette map 20045C0157E (eff. 9/2/2015). While flood insurance may not be mandatory in this instance, HUD recommends that all insurable structures maintain flood insurance under the National Flood Insurance Program (NFIP). The project is in compliance with flood insurance requirements.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

National Flood Hazard Layer FIRMette

FEMA

95°15'25"W 38°59'8"N

95°14'47"W 38°58'40"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/14/2022 at 5:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Air Quality

General requirements	Legislation	Regulation
The Clean Air Act is administered by the U.S. Environmental Protection Agency (EPA), which sets national standards on ambient pollutants. In addition, the Clean Air Act is administered by States, which must develop State Implementation Plans (SIPs) to regulate their state air quality. Projects funded by HUD must demonstrate that they conform to the appropriate SIP.	Clean Air Act (42 USC 7401 et seq.) as amended particularly Section 176(c) and (d) (42 USC 7506(c) and (d))	40 CFR Parts 6, 51 and 93

1. Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?

✓ Yes

No

Air Quality Attainment Status of Project's County or Air Quality Management District

2. Is your project's air quality management district or county in non-attainment or maintenance status for any criteria pollutants?

✓ No, project's county or air quality management district is in attainment status for all criteria pollutants.

Yes, project's management district or county is in non-attainment or maintenance status for the following criteria pollutants (check all that apply):

Screen Summary

Compliance Determination

According to the U.S. EPA Green Book and NEPAssist, the project site is not located within a nonattainment or maintenance area for any National Ambient Air Quality Standard (NAAQS) criteria air pollutants. Attached is a map of the City of Lawrence showing no nonattainment or maintenance areas. Also attached is the EPA Kansas Nonattainment/Maintenance Status for Each County for All Criteria Pollutants (as of December 31, 2021), indicating that Douglas County, KS is not on the list. Demolition

activities will require asbestos abatement prior to demolition as required by KDHE and local regulations. The project's county or air quality management district is in attainment status for all criteria pollutants. The project is in compliance with the Clean Air Act.

Supporting documentation

Air Quality packet 105 Michigan St.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Air Quality (CEST and EA)

General Requirements	Legislation	Regulation
The Clean Air Act is administered by the U.S. Environmental Protection Agency (EPA), which sets national standards on ambient pollutants. In addition, the Clean Air Act is administered by States, which must develop State Implementation Plans (SIPs) to regulate their state air quality. Projects funded by HUD must demonstrate that they conform to the appropriate SIP.	Clean Air Act (42 USC 7401 et seq.) as amended particularly Section 176(c) and (d) (42 USC 7506(c) and (d))	40 CFR Parts 6, 51 and 93
Reference		
https://www.hudexchange.info/environmental-review/air-quality		

Scope of Work

1. **Does your project include new construction or conversion of land use facilitating the development of public, commercial, or industrial facilities OR five or more dwelling units?**

   ☒ Yes

   → *Continue to Question 2.*

Air Quality Attainment Status of Project's County or Air Quality Management District

2. **Is your project's air quality management district or county in non-attainment or maintenance status for any criteria pollutants?**
   Follow the link below to determine compliance status of project county or air quality management district:
   https://www.epa.gov/green-book

   ☒ No, project's county or air quality management district is in attainment status for all criteria pollutants

   → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documents used to make your determination.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

According to the U.S. EPA Green Book and NEPAssist, the project site is not located within a nonattainment or maintenance area for any National Ambient Air Quality Standard (NAAQS) criteria air pollutants. Attached is a map of the City of Lawrence showing no nonattainment or maintenance areas. Also attached is the EPA Kansas Nonattainment/Maintenance Status for Each County for All Criteria Pollutants (as of December 31, 2021), indicating that Douglas County, KS is not on the list.

Demolition activities will require asbestos abatement prior to demolition as required by KDHE and local regulations.

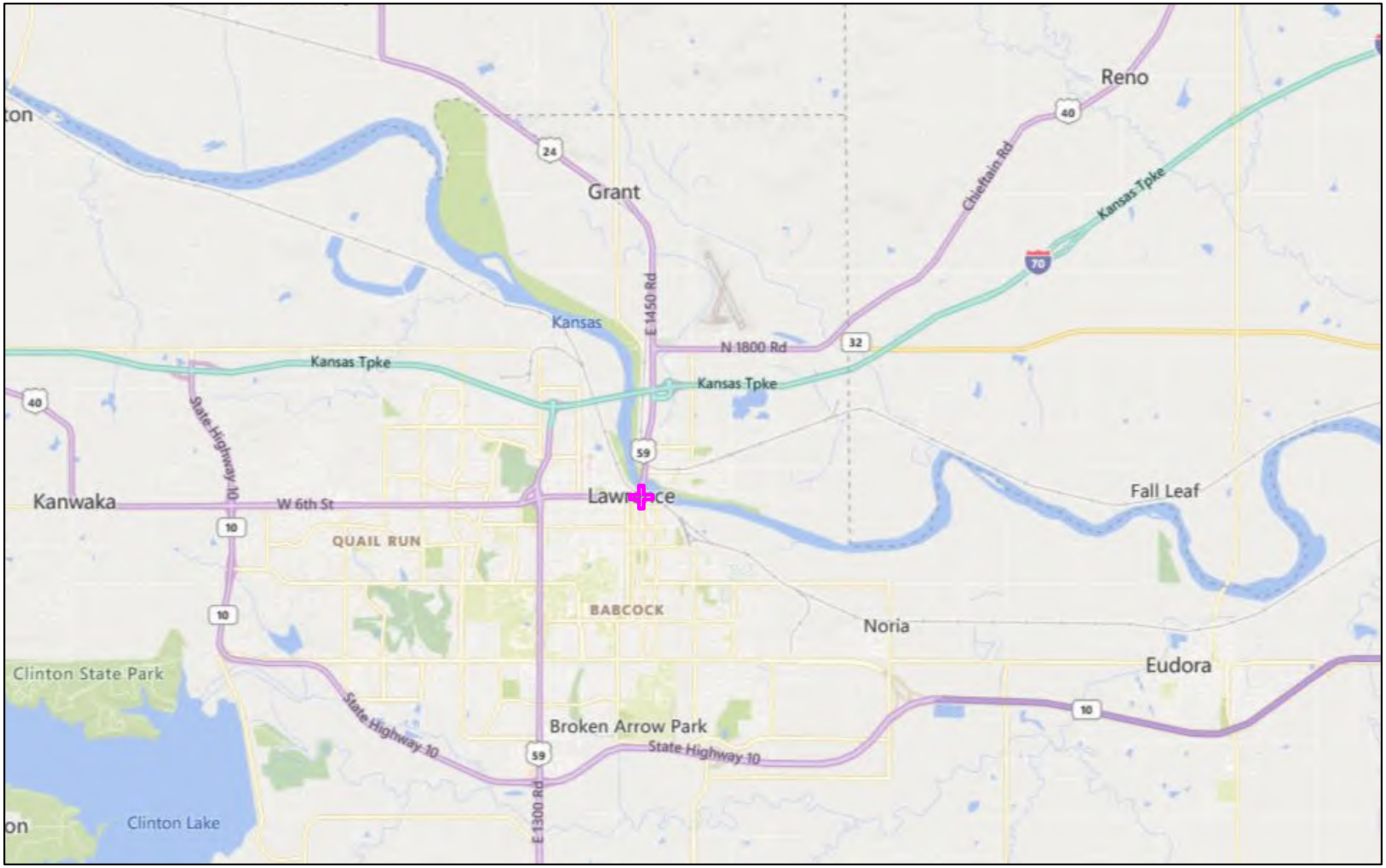
The project's county or air quality management district is in attainment status for all criteria pollutants. The project is in compliance with the Clean Air Act.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Air Quality Nonattainment/Maintenance Areas - Lawrence, KS



April 7, 2021

Search Result (point)

Nonattainment (NAAQS revoked)

Nonattainment

Nonattainment

Ozone 8-hr (1997 standard)
Maintenance (NAAQS revoked)

Ozone 8-hr (2008 standard)
Maintenance

Ozone 8-hr (2015 Standard)
Maintenance

Lead (2008 standard)
Maintenance

1:144,448

0 0.75 1.5 3 mi

0 1.5 3 6 km

Kansas Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants

Data is current as of December 31, 2021

Listed by County, NAAQS, Area. The 8-hour Ozone (1997) standard was revoked on April 6, 2015 and the 1-hour Ozone (1979) standard was revoked on June 15, 2005.

* The 1997 Primary Annual PM-2.5 NAAQS (level of 15 μg/m^3) is revoked in attainment and maintenance areas for that NAAQS. For additional information see the PM-2.5 NAAQS SIP Requirements Final Rule, effective October 24, 2016. (81 FR 58009)

Change the State:
KANSAS GO

Important Notes

Download National Dataset: dbf | xls | Data dictionary (PDF)

County	NAAQS	Area Name	Nonattainment in Year	Redesignation to Maintenance	Classification	Whole or/ Part County	Population (2010)	State/ County FIPS Codes
KANSAS								
Johnson County	1-Hour Ozone (1979)-NAAQS revoked	Kansas City, MO-KS		07/23/1992	Other	Whole	544,179	20/091
Saline County	Lead (2008)	Saline County, KS	11 12 13 14 15 16 17 18 19 20 21	/ /		Part	9	20/169
Wyandotte County	1-Hour Ozone (1979)-NAAQS revoked	Kansas City, MO-KS		07/23/1992	Other	Whole	157,505	20/209

Important Notes

Coastal Zone Management Act

General requirements	Legislation	Regulation
Federal assistance to applicant agencies for activities affecting any coastal use or resource is granted only when such activities are consistent with federally approved State Coastal Zone Management Act Plans.	Coastal Zone Management Act (16 USC 1451-1464), particularly section 307(c) and (d) (16 USC 1456(c) and (d))	15 CFR Part 930

This project is located in a state that does not participate in the Coastal Zone Management Program. Therefore, this project is in compliance with the Coastal Zone Management Act.

Screen Summary

Compliance Determination

The project is located in a state that does not participate in the Coastal Zone Management Program. Therefore, this project is in compliance with the Coastal Zone Management Program. Attached is the NOAA Office for Coastal Management list of states that participate in the Coastal Zone Management Program; Kansas is not listed.

Supporting documentation

Coastal Zone Management Worksheet Packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Coastal Zone Management Act (CEST and EA)

General requirements	Legislation	Regulation
Federal assistance to applicant agencies for activities affecting any coastal use or resource is granted only when such activities are consistent with federally approved State Coastal Zone Management Act Plans.	Coastal Zone Management Act (16 USC 1451-1464), particularly section 307(c) and (d) (16 USC 1456(c) and (d))	15 CFR Part 930
References		
https://www.onecpd.info/environmental-review/coastal-zone-management		

Projects located in the following states must complete this form.

Alabama	Florida	Louisiana	Mississippi	Ohio	Texas
Alaska	Georgia	Maine	New Hampshire	Oregon	Virgin Islands
American Samona	Guam	Maryland	New Jersey	Pennsylvania	Virginia
California	Hawaii	Massachusetts	New York	Puerto Rico	Washington
Connecticut	Illinois	Michigan	North Carolina	Rhode Island	Wisconsin
Delaware	Indiana	Minnesota	Northern Mariana Islands	South Carolina	

1. Is the project located in, or does it affect, a Coastal Zone as defined in your state Coastal Management Plan?

☒No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map showing that the site is not within a Coastal Zone.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

The project is located in a state that does not participate in the Coastal Zone Management Program. Therefore, this project is in compliance with the Coastal Zone Management Act. Attached is the NOAA Office for Coastal Management list of states that participate in the Coastal Zone Management Program; Kansas is not listed.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Kansas not listed

Coastal Zone Management Programs

** All 35 coastal and Great Lakes states and territories (with the exception of Alaska) participate in the National Coastal Zone Management Program.*

ALABAMA
The Alabama Coastal Management Program [http://www.adem.state.al.us/programs/coastal/default.cnt] , approved by NOAA in 1979, is administered by two state agencies:

- The Alabama Department of Conservation and Natural Resources [http://www.outdooralabama.com/alabama-coastal-area-management-program] is responsible for planning, fiscal management, public education, and research management; and the
- Alabama Department of Environmental Management [http://adem.alabama.gov/programs/coastal/default.cnt] carries out permitting, regulatory, and enforcement functions.

The primary authority for the coastal management program is the Alabama Coastal Area Act of 1976 (Act 534). The Alabama coastal zone [https://coast.noaa.gov/data/czm/media/StateCZBoundaries.pdf] extends inland to the continuous 10-foot contour in Mobile and Baldwin Counties.

ALASKA
Alaska withdrew from the voluntary National Coastal Zone Management Program [/czm/about/] on July 1, 2011. Contact NOAA's Office for Coastal Management for additional information.

AMERICAN SAMOA
The American Samoa Coastal Management Program [http://www.doc.as/resource-management/ascmp/] , approved by NOAA in 1980, is led by the American Samoa Department of Commerce. The coastal program has developed a unique approach that incorporates both western and traditional systems of management. The American Samoa Coastal Management Act provides the primary authority for the program. American Samoa's coastal zone boundary [https://coast.noaa.gov/data/czm/media/StateCZBoundaries.pdf] consists of seven islands, totaling roughly 77 square miles, with a coastline of 126 miles.

CALIFORNIA
The California Coastal Management Program, approved by NOAA in 1978, is administered by three state agencies:

Contamination and Toxic Substances

General requirements	Legislation	Regulations
It is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of the occupants or conflict with the intended utilization of the property.		24 CFR 58.5(i)(2) 24 CFR 50.3(i)

1. How was site contamination evaluated? Select all that apply. Document and upload documentation and reports and evaluation explanation of site contamination below.

- ✓ American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA)
- ASTM Phase II ESA
- Remediation or clean-up plan
- ASTM Vapor Encroachment Screening
- None of the Above

2. Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)

- ✓ No

Explain:

Solid Ground Environmental performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas. The assessment revealed no evidence of recognized environmental conditions in connection with the subject property. Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability. See attached Phase I ESA. Historical use information was established through the interview process and a review of historical aerial photographs, topographic maps, and city directories. Use of the Subject is summarized in the table below: Years: Use: Before 1937: Not determined 1937 to 1950: Vacant, agricultural land

1957 to present: A residential structure (south side of the Subject) and vacant lot (north side of the Subject).

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

Solid Ground Environmental performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas. The assessment revealed no evidence of recognized environmental conditions in connection with the subject property. Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability. See attached Phase I ESA. The project is in compliance with contamination and toxic substances requirements.

Supporting documentation

Site Contamination Packet 105 Michigan Street.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Contamination and Toxic Substances (Multifamily and Non-Residential Properties)

General requirements	Legislation	Regulations
It is HUD policy that all properties that are being proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of the occupants or conflict with the intended utilization of the property.		24 CFR 58.5(i)(2) 24 CFR 50.3(i)
Reference		
https://www.hudexchange.info/programs/environmental-review/site-contamination		

1. **How was site contamination evaluated?** [1] **Select all that apply.**

   ☒ ASTM Phase I ESA
   ☐ ASTM Phase II ESA
   ☐ Remediation or clean-up plan
   ☐ ASTM Vapor Encroachment Screening
   ☐ None of the above

   → *Provide documentation and reports and include an explanation of how site contamination was evaluated in the Worksheet Summary.*
   Continue to Question 2.

2. **Were any on-site or nearby toxic, hazardous, or radioactive substances found that could affect the health and safety of project occupants or conflict with the intended use of the property? (Were any recognized environmental conditions or RECs identified in a Phase I ESA and confirmed in a Phase II ESA?)**

   ☒ No

   Explain:

[1] HUD regulations at 24 CFR § 58.5(i)(2)(ii) require that the environmental review for multifamily housing with five or more dwelling units or non-residential property include the evaluation of previous uses of the site or other evidence of contamination on or near the site. For acquisition and new construction of multifamily and nonresidential properties HUD strongly advises the review include an ASTM Phase I Environmental Site Assessment (ESA) to meet real estate transaction standards of due diligence and to help ensure compliance with HUD's toxic policy at 24 CFR §58.5(i) and 24 CFR §50.3(i). Also note that some HUD programs require an ASTM Phase I ESA.

Solid Ground Environmental performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas. The assessment revealed no evidence of recognized environmental conditions in connection with the subject property. Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability. See attached Phase I ESA.

Historical use information was established through the interview process and a review of historical aerial photographs, topographic maps, and city directories. Use of the Subject is summarized in the table below:

Years	Use
Before 1937	Not determined
1937 to 1950	Vacant, agricultural land
1957 to present	A residential structure (south side of the Subject) and vacant lot (north side of the Subject)

→ *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

Solid Ground Environmental performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas. The assessment revealed no evidence of recognized environmental conditions in connection with the subject property. Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability. See attached Phase I ESA.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

JOE BEVERIDGE 913.461.9906 JOE@SOLIDGROUNDENVIRONMENTAL.COM SOLIDGROUNDENVIRONMENTAL.COM

Two Parcels
105 Michigan Street
Douglas County
Lawrence, Kansas 66044

For
TTH, Inc.

April 25, 2022

Project Number: 13008

PHASE ONE

ENVIRONMENTAL SITE ASSESSMENT

EXECUTIVE SUMMARY

Solid Ground Environmental, LLC was retained by TTH, Inc (Client) to perform a Phase I Environmental Site Assessment (ESA) of 105 Michigan Street in Lawrence, Kansas (Douglas County) (Subject). The Subject consists of two parcels of approximately 0.8-acres developed with one residential structure. A Site Plan Map is included in Appendix A.

This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. This practice was written to satisfy 40 Code of Federal Regulations (CFR) Part 312 – Standards and Practices for All Appropriate Inquiries.

The goal of the Phase I ESA process is to identify recognized environmental conditions (RECs) defined as the "presence or likely presence of any hazardous substances or petroleum products in, on, or at the property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions" (ASTM 1527-13).

Subject History

Years	Use
Before 1937	Not determined
1937 to 1950	Vacant, agricultural land
1957 to present	A residential structure (south side of the Subject) and vacant lot (north side of the Subject)

Records Review

Environmental Risk Information Services (ERIS) reviewed all federally required environmental databases. The Subject was not found in any of the databases searched.

The environmental database search did reveal surrounding sites within the required search distances in the environmental databases. None of these sites represent a REC for the Subject.

Vapor Intrusion

Vapor Intrusion is defined as: a process by which chemicals in soil or groundwater migrate to indoor air above a contaminated site. Vapor intrusion is not expected to be a concern for the Subject.

Findings, Opinions, and Recommendations

Solid Ground Environmental has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas (Douglas County). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Subject.

Based on the findings of this Phase I ESA, Solid Ground Environmental does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability.

The Executive Summary does not fully summarize the Phase I ESA. The entire report must be read in order to fully understand all findings, opinions, and recommendations.

Solid Ground Environmental recognizes that there may be various options for dealing with the concerns identified. The options discussed above are not the only acceptable alternatives for dealing with the potential concerns. Many factors can influence this decision including, but not limited to, risk tolerance of the Client, use of Subject, and capital restraints. These options are provided by Solid Ground Environmental, LLC solely as guidance for further action.

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Purpose

Solid Ground Environmental, LLC was retained by TTH, Inc (Client) to perform a Phase I Environmental Site Assessment (ESA) of 105 Michigan Street in Lawrence, Kansas (Douglas County) (Subject). The Subject consists of two parcels of approximately 0.8-acres developed with one residential structure. A Site Plan Map is included in Appendix A.

This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations on Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liability. This practice was written to satisfy 40 Code of Federal Regulations (CFR) Part 312 – Standards and Practices for All Appropriate Inquiries.

The goal of the Phase I ESA process is to identify recognized environmental conditions (RECs) defined as the "presence or likely presence of any hazardous substances or petroleum products in, on, or at the property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions" (ASTM 1527-13).

Additionally, the following environmental conditions may also be identified for the Subject:

Controlled Recognized Environmental Condition (CREC): a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

Historical Recognized Environmental Condition (HREC): a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

Business Environmental Risk (BER): a risk which can have a material environmental or environmentally-driven impact on the business associated with the current or planned use of a parcel of commercial real estate, not necessarily limited to those environmental issues required to be investigated per the ASTM standard.

De minimis condition: “a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis are not RECs or CRECs.”

1.2 Detailed Scope-of-Services

This Phase I ESA has been prepared in general accordance with American Standard for Testing and Materials (ASTM) – ‘Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process: (ASTM E 1527-13). A Phase I ESA is not designed to eliminate all uncertainty regarding RECs on the Subject. ASTM E 1527-13 is not an environmental compliance audit, does not evaluate all potential environmental business risk, and does not represent an exhaustive search of environmental issues on or at the Subject; rather what is practically reviewable and reasonably ascertainable as defined in ASTM E 1527-13. “There is a point at which the cost of information obtained or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions.”

This Phase I ESA shall not contain information on such non-scope items including, but not limited to: asbestos, radon, lead-based paint, lead in drinking water, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, biological agents, and mold.

1.3 Assumptions

Solid Ground Environmental assumes the Subject has been correctly identified by the User, designated representative of the User, property owner or operator, and/or the designated representative of the property owner or operator.

Solid Ground Environmental assumes the Subject has been accurately identified by the User or the Key Site Manager.

Solid Ground Environmental assumes all parties interviewed have answered all questions related to the Subject, Subject history, and potential for RECs in good faith.

Solid Ground Environmental assumes the direction of groundwater is consistent with the contours depicted on the United States Geological Survey (USGS) topographic map covering the Subject, unless otherwise specified by actual well data for the Subject or properties in the area, or Solid Ground Environmental’s experience and knowledge of the area.

1.4 Data Gaps (Limitations and Exceptions)

The following is a list of data gaps encountered during the preparation of this Phase I ESA. None of these data gaps prevented Solid Ground Environmental from forming its findings, opinions, and conclusions.

- Unable to research Subject's usage in five-year intervals.
- Subject was developed at the earliest historical document available (agricultural).
- The current and previous Subject owners were not interviewed.

1.5 Special Terms and Conditions

No special terms or conditions existed for the completion of this Phase I ESA.

1.6 Limitations

No ESA can wholly eliminate uncertainty regarding the potential for RECs in connection with a property. This ESA was designed to reduce but not eliminate uncertainty regarding the existence of such conditions in a manner that recognizes reasonable limits of time and cost. Solid Ground Environmental has completed this ESA in accordance with generally accepted consulting practices, and makes no other warranties, either expressed or implied, as to the character and nature of such services or product.

1.7 User Reliance

This Phase I ESA was prepared using ASTM E 1527-13 standard for exclusive use by the Client. ASTM E 1527-13 represents good commercial or customary practices designed to conform to acceptable industry standards.

The findings, opinions, and recommendations found in Section 8 of this report are based on the information provided by the Client, interviewees, and ERIS along with the conditions present during the site visit on April 22, 2022. They represent the Environmental Professional's best professional judgment. It is assumed that all information provided to the Environmental Professional during the preparation of this report was truthful and complete.

Reliance on this report by any party, other than the Client, would result in reliance on assumptions whose extent and nature would distort the meaning and impact of the findings, opinions, and conclusions and is not authorized by Solid Ground Environmental.

2 SUBJECT DESCRIPTION

2.1 Location and General Characteristics

According to the Douglas County Assessor, the Subject includes 0.8 acres of land and is owned by Karena Schmitendorf. The tax identification card for the Subject is included in Appendix A. The nearest intersection is N. Michigan Street and Michigan Street. The Subject can be accessed from Michigan Street. The surrounding land is mostly residential. As of April 13, 2022, the Douglas County Assessor lists the Subject as zoned single-dwelling residential (RS7). The parcel number is included below:

023-067-25-0-20-11-034.01-0
023-067-25-0-20-11-034.02-0

2.2 Current Use of the Subject

The Subject is currently developed with one single-family residential structure.

During the preparation of this Phase I ESA, Solid Ground Environmental found no evidence that the current uses of the Subject are likely to involve the use, treatment, storage, disposal, or generation of hazardous substances or petroleum products except for pole-mounted transformers.

2.3 Current Use of Adjoining Properties

During the site reconnaissance, the following sites were observed to border the Subject:

Direction	Name/Address	Use	Regulatory Review? (Y / N)
North	Single-family residential / 103 Michigan Street	Residential	No
South	Single-family residential / 129 Michigan Street	Residential	No
East	Single-family residential / 110 Michigan Street Single-family residential / 124 Michigan Street Single-family residential / 130 Michigan Street	Residential	No
West	Single-family residential / 124 Florida Street	Residential	No

	Single-family residential / 128 Florida Street Single-family residential / 132 Florida Street		

Reconnaissance of the adjoining properties did not reveal any indications of RECs.

3 USER PROVIDED INFORMATION

Rebecca Buford provided answers to the user questionnaire on April 11, 2022. The questionnaire can be seen in Appendix C.

3.1 Title Records

Per ASTM 1527-13, "Unless added by a change in the scope of work to be performed by the environmental professional, this practice does not impose on the environmental professional the responsibility to undertake a review of recorded land title records and judicial records for environmental liens or activity and use limitations."

No title records were provided by the client and the client did not request Solid Ground Environmental to perform a review of the Subject's title records.

3.2 Environmental Liens, Activity, or Use Limitations

According to the Client, no environmental liens, activity or use limitations exist for the Subject. The Kansas Department of Health and Environment (KDHE) did not have any record of environmental liens or activity or use limitations for the Subject.

3.3 Specialized Knowledge of the Subject

The Client does not have any specialized knowledge or experience related to the Subject or nearby properties.

3.4 Commonly Known or Reasonably Ascertainable Information

The Client is not aware of any commonly known or reasonably ascertainable information, which would help Solid Ground Environmental identify RECs on the Subject.

3.5 Valuation Reduction for Environmental Issues

The Client stated that the Subject's purchase price is equal to or greater than fair market value for the Subject.

3.6 Owner, Subject Manager, and or Occupant Information

Based on the Client's knowledge and experience of the Subject, there are no obvious indicators of the likely presence of environmental contamination at the Subject.

3.7 Reasons for Performing the Phase I ESA

The Phase I ESA was completed to prepare the Subject for a real estate transaction and in order to satisfy one of the requirements to qualify for the innocent landowner defense described in CERCLA.

4 GENERAL SITE SETTING AND RECORDS REVIEW

4.1 General Site Setting

4.1.1 Topography and Geology

The 2015 Lawrence West, Kansas USGS 7.5 Minute topographic map was reviewed. This topographic map does not show specific development. Of note, no industrial land, landfills, or areas of environmental concern were noted for the Subject or adjoining land on the topographic map. The topographic map with the Subject boundaries in red is included in Appendix A. The Subject elevation is approximately 853 feet above sea level.

4.1.2 Floodplains and Hydrology

A review of the ERIS Physical Setting Report, which includes flood hazard zones from Federal Emergency Management Agency floodplain maps, shows that the Subject is not located within a flood zone.

The nearest body of water is an unnamed tributary approximately 600 feet to the southeast.

The United States Environmental Protection Agency's Groundwater Handbook, Volume 1 Groundwater and Contamination written in 1990 states that shallow groundwater typically flows from areas of higher elevations to areas of lower elevations. Based on a review of the most recent topographic map and site observations, groundwater flow at the Subject is expected to flow from west to east.

4.1.3 Soil Information

According to the soil information provided within the ERIS Physical Setting Report, which is maintained by the United States Department of Agriculture, Natural Resource Conservation Service, the soils at the Subject are classified as Woodson silt loam, 1 to 3 percent slopes.

4.2 Standard Environmental Records Sources

Solid Ground Environmental obtained the appropriate physical setting records and historical information as described in Section 8 of ASTM E 1527-13. This includes an Environmental Risk Information Services (ERIS) report of the Subject and surrounding area in accordance with ASTM E 1527-13 Section 8.2.1. A copy of all historical documentation is included in Appendix D and a copy of the ERIS report is included in Appendix F.

As part of the Phase I ESA process, Solid Ground Environmental reviews each site listed in the ERIS Report in order to make a REC determination. Each decision is based on the geology, hydrology,

topography, soil information, and nearest water body information included in Section 4.1 along with site-specific information, such as, distance and gradient from the Subject and individual site status. While the full ERIS Report and database listings can be found in Appendix F, only listings for the Subject, adjoining addresses, or sites that have a high potential to negatively impact the Subject are discussed in detail below.

4.3 Subject Listings

The Subject was not found in any databases searched.

4.4 Adjoining Site Listings

The ERIS Report did not identify any listings for the adjoining sites within the standard environmental records search.

4.5 Notable Off-Site Listings

Based on a review of the ERIS Report and Subject, Solid Ground Environmental did not identify any additional off-site listings needing further evaluation.

4.6 Orphan Sites

Orphan sites are included in the ERIS database as sites that may be near the Subject, but because of insufficient information, the exact location could not be determined by ERIS. No orphan sites were listed in the ERIS database.

4.7 Historical Use Information on the Subject

Historical use information was established through the interview process and a review of historical aerial photographs, topographic maps, and city directories. Use of the Subject is summarized in the table below:

Years	Use
Before 1937	Not determined
1937 to 1950	Vacant, agricultural land
1957 to present	A residential structure (south side of the Subject) and vacant lot (north side of the Subject)

Based on the historical documents available for review, Solid Ground Environmental does not believe data failure, as defined in ASTM Section 8.31 through 8.3.2.2, has occurred.

The Subject has a history of agricultural use. Based on this use, it is possible pesticides or herbicides have been used on the Subject. Solid Ground Environmental found no evidence of the mishandling or misapplication of pesticides or herbicides. Furthermore, the Subject has been redeveloped and currently receives drinking water from the City of Lawrence. Based on this information, the historical use of agriculture is not considered a REC.

4.7.1 Aerial Photograph Summary

The following table summarizes the information shown on the aerial photographs reviewed for the Subject. A copy of the aerial photographs provided by ERIS, which include the Subject boundary highlighted in green, are included in Appendix D.

Year	Subject Summary	Adjoining Summary
1937, 1948, 1950	Vacant, agricultural land	Mostly vacant, agricultural land with a road to the east followed by a farmstead
1959	The aerial photograph was of poor quality and specific use was unable to be determined	
1967, 1970, 1977, 1982, 1985, 1991, 2002, 2003, 2004, 2005, 2006, 2008, 2010, 2012, 2014, 2015, 2017, 2019	A residential structure and a vacant lot (similar to the current-day day layout)	North: A residence East: A road followed by several small structures; by 1991, there were additional residences South: A residence West: Trees; by 1970, there were residence

4.7.2 Sanborn Map Summary

Sanborn Maps were not available for the Subject or surrounding land.

4.7.3 Topographic Map Summary

The following table summarizes the information shown on the historical topographic maps reviewed for the Subject. A copy of the historical topographic maps provided by the United States Geological Survey, which include the Subject boundary highlighted in purple, are included in Appendix D.

Year	Subject Summary	Adjoining Summary
1950, 1951	Vacant land	Vacant land with a street to the east followed by several small structures and an unimproved road to the north

1967	A small structure	North: A small structure East: A street followed by a couple of small structures South: A small structure West: Vacant land
1978	A small structure and the area was shaded (representing developed land)	North: A small structure East: A street followed by a couple of small structures South: A small structure and shaded West: The area was shaded
1994	The area was shaded	The area was shaded with streets
2012, 2015, 2018	Only roadways and topography shown	

4.7.4 City Directory Summary

ERIS performed a city directory search of the Subject address and adjoining addresses, if applicable. A copy of the ERIS City Directory report is included in Appendix D, which includes a review of the adjoining properties. The following table provides a summary of the findings for the Subject.

Year	Listings
103 Michigan St	Palmquist Dan A (1957-1970); Vacant (1976-1986); Crawford Inez M (1991); I Crawford (2000-2008); Inez Crawford (2012-2020); Stephanie Crawford (2012-2020)
105 Michigan St	**Gray Carl Jr (1957); Pitz Anthony J (1963); Mc Ardle Harold (1966); Ellis Lewis W (1970); Vacant (1976); Fisher Armond T (1981); Fisher Armand T (1986-1991); Armand T Fisher (2000-2008); Wilma Fisher (2012)**
107 Michigan St	Sacks L A (1957)
110 Michigan St	Multi Tenant Residential (1976); Lots (1976-1986); Mobile Village No 2 (1986); Mobile Village (1991); A Miller (2000); Alice Harris (2000); Arthur R Baise (2000); Bessie Rist (2000); Dana Rockers (2000); Earl D Powell (2000); G Ricley (2000); George Hildebrand (2000); H L Chinn (2000); J A Rose (2000); J Pitzer (2000); Jack Smith (2000); Jamie Schulz (2000); Janna Coyne (2000); Jeffrey Odom (2000); John Weber (2000); K Freitag (2000); Kijune Park (2000); M J Awtrey (2000); Marie Thompson (2000); Nate Harjo (2000); Ray Calderwood (2000); Robert R Ayers (2000); Robt & Lucille Tuckel (2000); S Findley (2000); Samuel Thrift (2000); Scott Irvin (2000); V Aubry (2000); William H Crabtree (2000); Mark Olsen (2000-2003); Neba Coble (2000-2003); Nick Jr Raulsten (2000-2003); Scott A Mossman (2000-2003); Tim Foster (2000-2003); B K Harding (2000-2008); Brian W Silvers (2000-2008); James Mace (2000-2008); Larry E Lakin (2000-2008); R S Eisenbarger (2000-

	2008); Dale Arfmann (2000-2012); Randy Schimmel (2000-2012); Mobile Village Ii (2000-2020); Bridget Lucy (2003); Cozelle Fleming (2003); Dan Slifer (2003); Eugene E Bell (2003); Kelly Lusso (2003); Michael S Touhey (2003); Rick Pruitt (2003); Rowena Day (2003); Sherry Floyd (2003); Patti Hawkins (2003-2008); Ray Higgins (2003-2008); Shylo Pauly (2003-2008); W E Place (2003-2008); Grace Allen (2003-2020); D J Ayers (2008); Jack & Diana Smith (2008); Kim K Hatch (2008); Robert & Lucille Tuckel (2008); Brenda Snow (2016); Johnny Snow (2016); Brandon Snow (2016-2020); Teressa Harvey (2016-2020); Eugene Bell (2020)
124 Michigan St	Jas F Wood (1925); Kuhn Valentine (1929-30); Keller John L (1950); Schear Ralph (1957); Onstead Sarah Mrs (1963); Vacant (1966); Turner Clifford D (1970); Mangum Terry (1976-1991); Mangum Connie M (1996); C M Mangum (2000-2003); Terry Mangum (2008)
129 Michigan St	Freitag Robt W Rev (1963-1976); Freitag Robtw Rev (1966); Kulp Carl (1981); Atkeisson Chris (1986-1991); Atkelsson Chris L & Julia (1996); Chris Atkeisson (2000-2008); Julia Atkeisson (2012-2016); Christopher Atkeisson (2012-2020)
130 Michigan St	Philip Olmstead (1925); Wiggins Otis (1929-30); Olmsted Collin (1935); Rogers C A (1950-1957); Rogers Clarence A (1963); Rogers Betty J Mrs (1966); Vann Darel H Cement Contr (1970); Klemm David M (1976); Baxter Don G (1981); Baxter Bob A (1986); No Return (1991); Kiszr Carl S (1996); Shelton Kiszr (2000-2003); Shelton Kiser (2008-2012)
120 Florida St	Knight Donald J (1976-1991); Knight Donald J & Joan (1996); Donald Knight (2000-2003); Dan & Cathy Narcomey (2008); Cathy Narcomey (2020)
124 Florida St	Fike Jack (1976); Fike Joe K (1981); Mc Guire Larry R (1986); Shew Julian (1991); Beard Scott (1996); Scott & Michelle Beard (2000-2008); Rachel Beard (2012-2016); Scott Beard (2012-2016); Kenneth Beard (2012-2020); Michelle Beard (2016)
128 Florida St	Chinn Allen P (1976); Black Jerry (1981); Hartman Stan F (1986); Majors (1991); Vacant (1996); Jack & Sheila Toon (2003); Dolly Johnson (2008-2012)
132 Florida St	Ballard Richd L (1976-1991); Ballard Brad (1996); Ballard Richard L & Wilma (1996); Brad Ballard (2000-2003); Richard L Ballard (2000-2008); Wilma Ballard (2012-2016); Richard Ballard (2016-2020)
136 Florida St	Munsch Robt D (1976); Lahm David (1981); Cummings Steven (1986); Cummings Steven R (1991); Steve'S Appliance Repair Major Appliance Repair (1991); Not Verified (1996); Gloria Johnson (2016); Andrea Johnson (2016-2020)

4.8 Historical Use Information on Adjoining Properties

Historical use of the adjoining sites is required “only to the extent that this information is revealed

in the course of researching the property itself," according to Section 8.3.3 of ASTM 1527-13. A summary of the historical uses of the adjoining property can be seen in Section 4.7 above.

4.9 Previous Environmental Reports or Documents

No previous Phase I ESAs or environmental reports were provided by the owner or user of the Subject.

5 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

Site reconnaissance of the Subject was conducted on April 22, 2022. Ashley Stuerke, representative of Solid Ground Environmental conducted the site reconnaissance in a grid pattern to obtain as much information as possible regarding the potential for RECs on the Subject. Ms. Stuerke gained access to the entire Subject.

5.2 Interior Observations

Below are details regarding the building:

Building Information	
Occupant	Private residence
Use	Residential
Stories	One
Construction Date	1957 (county assessor)
Square footage	1,818 (county assessor)
Units	One
Heating & Cooling Energy Source	Electricity and Natural Gas

5.2.1 Stains or Corrosions

Solid Ground Environmental did not identify any stains or corrosion during the site reconnaissance.

5.2.2 Drains and Sumps

Solid Ground Environmental did not identify any drains or sumps located near chemical storage. In addition, no drains or sumps were stained or emitting odors.

5.2.3 Drums / Hazardous Substance or Petroleum Product Containers

Solid Ground Environmental did not identify any drums or hazardous substances or petroleum product containers during the site reconnaissance.

5.2.4 Odors

Solid Ground Environmental did not identify any strong, pungent, or noxious odors during the site reconnaissance.

5.3 Exterior Observations

The Subject includes general landscaping surrounding the Subject building and Subject boundary. The north lot of the Subject was grass and tree-covered land.

5.3.1 Storage Tanks

No evidence of USTs or ASTs, such as vent pipes, fill ports, pavement cuts, or fuel dispensers, were observed during the site reconnaissance.

5.3.2 Odors

Solid Ground Environmental did not identify any strong, pungent, or noxious odors during the site reconnaissance.

5.3.3 Pools of Liquids

Solid Ground Environmental did not identify any standing surface water or pools during the site reconnaissance.

5.3.4 Drums / Hazardous Substance or Petroleum Product Containers

Solid Ground Environmental did not identify any drums or hazardous substances or petroleum product containers during the site reconnaissance.

5.3.5 Unidentified Substance Containers

Solid Ground Environmental did not identify any substance containers during the site reconnaissance.

5.3.6 Stressed Vegetation / Stained Soil or Pavement

Solid Ground Environmental did not identify any stressed vegetation, stained soil, or stained pavement during the site reconnaissance.

5.3.7 Wells

Solid Ground Environmental did not identify any wells or evidence of past wells during the site reconnaissance. According to the ERIS Physical Setting Report, no wells were identified on the Subject.

5.3.8 Septic Systems

Solid Ground Environmental did not identify any septic systems or evidence of past septic systems during the site reconnaissance.

5.3.9 PCBs

Solid Ground Environmental observed electrical transformers on the Subject. No evidence of leaks or spills from these transformers was observed during the site reconnaissance. In the event of a PCB release, the owner of these transformers would be responsible for any required maintenance and / or remediation. It is assumed these transformers were utility-owned.

No signs of leakage were noted from the observed hydraulic equipment and no reports or signs of leakage were provided during the site reconnaissance; therefore, the equipment is not considered a REC.

5.3.10 Utilities Summary

Utilities for the Subject are as follows:

- Water — City of Lawrence
- Sewer — City of Lawrence
- Gas — Kansas Gas Service
- Electricity — Evergy
- Solid Waste — Private carting firm
- Steam — Not provided to Subject
- Fuel Oil — Not provided to Subject

6 INTERVIEWS

6.1 Interview with Current Owner

Solid Ground Environmental did not interview the current Subject owner. This data gap did not prevent Solid Ground Environmental from forming its findings, opinions and conclusions. However, the Subject owner's representative was interviewed. The information provided is included in the following table:

Name:	Augustus Brandt
Title:	Son of the current owner (Karena Schmitendorf)
Interview Date:	April 22, 2022
Phone Number:	530-601-1320
Summary:	Mr. Brandt stated that his mother purchased the residence in 2019. Since that time, the residence has been vacant. Mr. Brandt stated that he was not aware of any storage, spills, or leaks of hazardous substances or petroleum products on the Subject.

6.2 Interview with Past Owner

Solid Ground Environmental did not interview the previous Subject owner. This data gap did not prevent Solid Ground Environmental from forming its findings, opinions and recommendations.

6.3 Interview with Key Site Manager / Occupants

The Subject does not have a key site manager or any occupants.

6.4 Interview with Government Officials

6.4.1 Fire Department

Name:	Aliza Bidinger
Title:	Deputy City Clerk with the City of Lawrence
Interview Date:	April 14, 2022
Phone Number:	785-832-3302
Summary:	The local fire department did not have any environmental-related information for the Subject.

6.4.2 State Environmental Department

Name:	Not applicable
Title:	Not applicable
Interview Date:	Not applicable

Phone Number:	Not applicable
Summary:	Neither the Subject or any adjoining properties were listed in any state environmental databases indicative of a release and KDHE was not contacted.

7 VAPOR INTRUSION

While preparing this Phase I ESA, Solid Ground Environmental evaluated the potential for vapor migration from on-site and off-site soil and groundwater contamination. A Tier I (non-intrusive) Vapor Encroachment Screening (VES) was conducted in general accordance with the methodology set forth in ASTM E2600-15 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* was conducted. The purpose of the Tier I VES is to conduct an initial screen to identify, to the extent feasible, the potential vapor encroachment condition (VEC) in connection with the Subject with respect to chemicals of concern that may migrate as vapors into existing or planned structures on a property due to contaminated soil and groundwater on the property or within close proximity to the Property.

The ASTM E2600-10 Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions states that the critical distance to evaluate the potential for vapor intrusion is 100 feet or 30 feet for dissolved petroleum hydrocarbons.

Based upon the results of this report's data collection, reconnaissance and analysis, a summary of the Tier I VES findings is presented below:

- **Subject – None identified**
- **Historical uses of the Subject – None identified**
- **Adjoining property's existing uses – None identified**
- **Historical uses of adjoining properties – None identified**

8 FINDINGS, OPINIONS, AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527-13 of 105 Michigan Street in Lawrence, Kansas (Douglas County). Any exceptions to, or deletions from, this practice are described in Section 1.3 of this report. This assessment has revealed no evidence of recognized environmental conditions in connection with the Subject.

Based on the findings of this Phase I ESA, Solid Ground Environmental, LLC does not recommend any additional environmental investigations to satisfy the requirements to qualify for the innocent landowner, contiguous Subject owner, or bona fide prospective purchaser limitations to CERCLA liability.

9 REFERENCES

1. American Standard for Testing and Materials: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – ASTM E 1527-13. 2013

2. Douglas County, Kansas property viewer website: https://www.douglascountyks.org/depts/gis/property-viewer-gis-map

3. Environmental Protection Agency: 40 Code of Federal Regulations Part 312: Standards and Practices for All Appropriate Inquiries. 2005

4. ERIS Database Report April 2022

5. ERIS Historical Documents (aerial photographs, city directories, and topographic maps) April 2022

6. ERIS Physical Setting Report April 2022

10 SIGNATURE / QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in 40 CFR 312.10 of this part.

And

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. **Mr. Beveridge's resume is included in Appendix G.**

Joe Beveridge
President
Solid Ground Environmental, LLC
www.solidgroundenvironmental.com

APPENDICES

A. SITE PLAN MAP / TOPOGRAPHIC MAP / TAX ID CARD

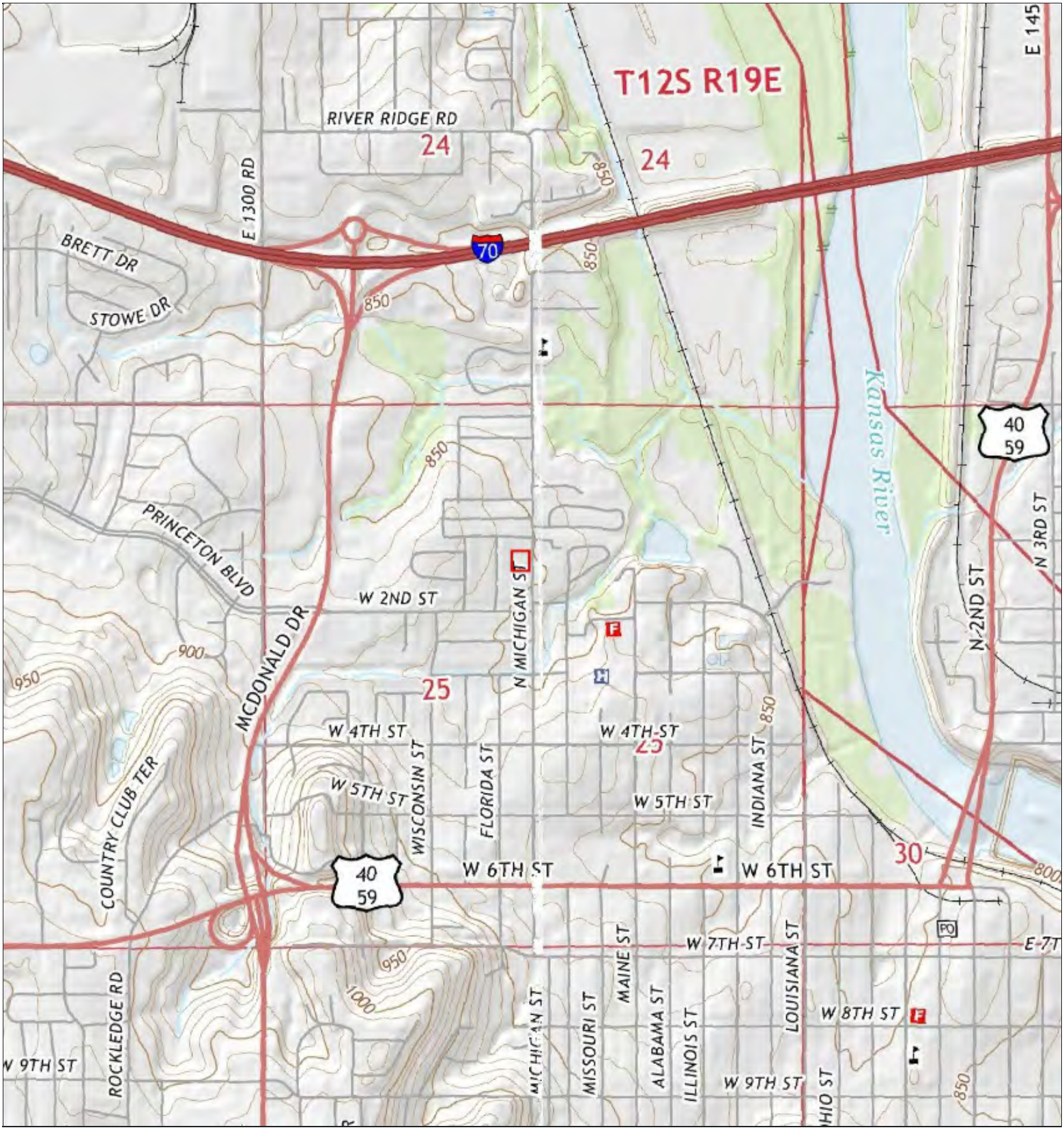
Subject Boundary

N

Source/Year : Google Base Map

Scale: 1:1000

solid ground environmental	Two Parcels 105 Michigan St, Lawrence, KS	Date: April 13, 2022 Project No. 13008	Figure No: 1



Subject Boundary

N

Source/Year : USGS, 2016

Scale: 1:18000

solid ground environmental	Two Parcels 105 Michigan St, Lawrence, KS	Date: April 13, 2022 Project No. 13008	Figure No: 1

Parcel ID: 023-067-25-0-20-11-034.02-0 | Quick Ref: R4076 | Tax Year: 2022 | Run Date: 4/13/2022 12:34:47 PM

OWNER NAME AND MAILING ADDRESS

SCHMITENDORF KARENA K

4000 W 6TH ST STE B
LAWRENCE, KS 66049

PROPERTY SITUS ADDRESS

105 MICHIGAN ST
LAWRENCE, KS

Image Date:

INSPECTION HISTORY

Date	Time	Code	Reason	Appraiser	Contact	Code
12/10/2021	7:56 AM	FR	FR	376		
12/07/2020	10:12 AM	FR	FR	376		
06/09/2020	9:09 AM	MV	DM	377		

LAND BASED CLASSIFICATION SYSTEM

Function:	9910	Residential high Sfx:
Activity:	1000	Residential activities
Ownership:	1100	Private-fee simple
Site:	1000	Site in natural state

BUILDING PERMITS

Number	Amount	Type	Issue Date	Status	% Comp

GENERAL PROPERTY INFORMATION

Prop Class: V Vacant Lots - V
Living Units:
Zoning: RS7
Neighborhood: 679.0 679.0
Economic Adj. Factor:
Map / Routing: / U12304
Tax Unit Group: 000041-City of Lawrence - 041

PROPERTY FACTORS

Topography: Level - 1
Utilities: All Public
Access: Paved Road
Fronting: Residential Street
Location: Neighborhood or Spot
Parking Type: Off Street
Parking Quantity: Adequate
Parking Proximity: On Site
Parking Covered:
Parking Uncovered:

2022 APPRAISED VALUE

Cls	Land	Building	Total
V	40,000		40,000
Total	40,000	0	40,000

2021 APPRAISED VALUE

Cls	Land	Building	Total
V	37,980		37,980
Total	37,980	0	37,980

TRACT DESCRIPTION

NORTHWOOD ADD NO 2 BLK 1 LT 2

PARCEL COMMENTS

GenLink: 023-067-25-0-20-11-034.01-0-, 023-067-25-0-20-11-034.01-0-; Prop-FN: GN

MISCELLANEOUS IMPROVEMENT VALUES

Class	Value	Reason Code

NEW CONSTRUCTION

Class	Value	Reason Code

MARKET LAND INFORMATION

Method	Type	AC/SF	Eff FF	Depth	D-Fact	Inf1	Fact1	Inf2	Fact2	OVRD	Rsn	Cls	Model	Base Size	Base Val	Inc Val	Dec Val	Value Est
Sqft	1-Primary Site	14,020											6.08	8,000.00	5.00	0.00	0.00	40,000

Total Market Land Value 40,000

Parcel ID: 023-067-25-0-20-11-034.01-0 | Quick Ref: R4075 | Tax Year: 2022 | Run Date: 4/13/2022 12:34:10 PM

OWNER NAME AND MAILING ADDRESS

SCHMITENDORF KARENA K

4000 W 6TH ST STE B
LAWRENCE, KS 66049

PROPERTY SITUS ADDRESS

105 MICHIGAN ST
LAWRENCE, KS

Image Date: 09/15/2020

INSPECTION HISTORY

Date	Time	Code	Reason	Appraiser	Contact	Code
12/13/2021	9:29 AM	FR	FR	376		
12/07/2020	12:38 PM	FR	FR	376		
06/09/2020	10:42 AM	MV	DM	377		

LAND BASED CLASSIFICATION SYSTEM

Function:	1101	Single family re: Sfx:
Activity:	1100	Household activities
Ownership:	1100	Private-fee simple
Site:	6000	Developed site - with building

BUILDING PERMITS

Number	Amount	Type	Issue Date	Status	% Comp

GENERAL PROPERTY INFORMATION

Prop Class:	R Residential - R
Living Units:	1
Zoning:	RS7
Neighborhood:	679.0 679.0
Economic Adj. Factor:	
Map / Routing:	/ U12305
Tax Unit Group:	000041-City of Lawrence - 041

PROPERTY FACTORS

Topography:	Level - 1
Utilities:	All Public
Access:	Paved Road
Fronting:	Residential Street
Location:	Neighborhood or Spot
Parking Type:	Off Street
Parking Quantity:	Adequate
Parking Proximity:	On Site
Parking Covered:	
Parking Uncovered:	

2022 APPRAISED VALUE

Cls	Land	Building	Total
R	40,000	177,500	217,500
Total	40,000	177,500	217,500

2021 APPRAISED VALUE

Cls	Land	Building	Total
R	37,980	149,420	187,400
Total	37,980	149,420	187,400

TRACT DESCRIPTION

NORTHWOOD ADD NO 2 BLK 1 LT 3

PARCEL COMMENTS

GenLink: 023-067-25-0-20-11-034.02-0-, 023-067-25-0-20-11-034.02-0-; Prop-FN: GN

MISCELLANEOUS IMPROVEMENT VALUES

Class	Value	Reason Code

NEW CONSTRUCTION

Class	Value	Reason Code

MARKET LAND INFORMATION

Method	Type	AC/SF	Eff FF	Depth	D-Fact	Inf1	Fact1	Inf2	Fact2	OVRD	Rsn	Cls	Model	Base Size	Base Val	Inc Val	Dec Val	Value Est
Sqft	1-Primary Site	21,030											6.08	8,000.00	5.00	0.00	0.00	40,000

Total Market Land Value 40,000

Parcel ID: 023-067-25-0-20-11-034.01-0 Quick Ref: R4075 Tax Year: 2022 Run Date: 4/13/2022 12:34:10 PM

DWELLING INFORMATION

Res Type:	1-Single-Family Residence
Quality:	3.00-Average
Year Blt:	1957 Est:
Eff Year:	
MS Style:	1-One Story
LBCSStruct:	1110-Detached SFR unit
No. of Units:	
Total Living Area:	
Calculated Area:	1,818
Main Floor Living Area:	1,818
Upper Floor Living Area Pct:	
CDU:	AV
Phys/Func/Econ:	AV / /
Ovr Pct Gd/Rsn:	
Remodel:	
Percent Complete:	
Assessment Class:	
MU Cls/Pct:	

COMP SALES INFORMATION

Arch Style:	02-Ranch
Bsmt Type:	1-Slab
Total Rooms:	6 Bedrooms: 3
Family Rooms:	1
Full Baths:	1 Half Baths:
Garage Cap:	2
Foundation:	None - 1

IMPROVEMENT COST SUMMARY

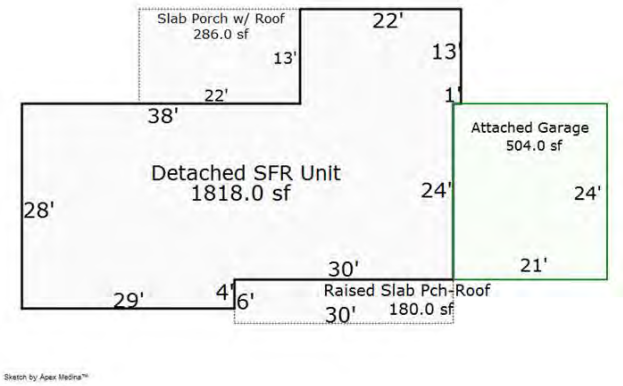
Dwelling RCN:	229,140
Percent Good:	87
Mkt Adj: 100 Eco Adj:	100
Building Value:	199,350
Other Improvement RCN:	0
Other Improvement Value:	0

CALCULATED VALUES

Cost Land:	40,000
Cost Building:	199,350
Cost Total:	239,350
Income Value:	0
Market Value:	217,500
MRA Value:	212,800
Weighted Estimate:	218,450

FINAL VALUES

Value Method:	MKT
Land Value:	40,000
Building Value:	177,500
Final Value:	217,500
Prior Value:	187,400



BUILDING COMMENTS

DwellCom: A1-11 0180sf , A2-19 0504sf , A3-11 0286sf; DwellComp: OBY cond = P

DWELLING COMPONENTS

Code	Units	Pct	Quality	Year
104-Frame, Plywood or Hardboard		100		
208-Composition Shingle		100		
351-Warmed & Cooled Air		100		
402-Automatic Floor Cover Allowance				
601-Plumbing Fixtures	5			
602-Plumbing Rough-ins	1			
621-Slab on Grade	1,818			
641-Single 1-Story Fireplace	1			
701-Attached Garage	504			
736-Garage Finish, Attached	504			
904-Slab Porch with Roof	286			
904-Slab Porch with Roof	216		1.00	1980

DWELLING COMPONENTS

Code	Units	Pct	Quality	Year
905-Raised Slab Porch with Roof	180			

B. SITE PHOTOGRAPHS

1. North portion of the Subject (from the northeast corner)

2. Subject (from the northeast corner)

3. East portion of the Subject (from the northeast corner)

4. East portion of the Subject (from the southeast corner)

5. Subject (from the southeast corner)

6. South portion of the Subject (from the southeast corner)

7. South portion of the Subject (from the southwest corner)

8. Subject (from the southwest corner)

9. West portion of the Subject (from the southwest corner)

10. West portion of the Subject (from the northwest corner)

11. Subject (from the northwest corner)

12. North portion of the Subject (from the northwest corner)

13. Subject – A/C unit and gas connection

14. Subject boundary – Pole-mounted transformer

15. Subject – Rear of the residence

16. Subject – Access to utility

17. Subject – Shed

18. Subject – Interior of the shed

19. Subject – Interior, overview

20. Subject – Interior, overview

21. Subject – Interior, overview

22. Subject – Interior, furnace and hot water heater

23. Land to the north

24. Land to the east

25. Land to the south

26. Land to the west

C. USER PROVIDED INFORMATION

SCHEDULE 1
INFORMATION TO BE PROVIDED BY THE COMPANY

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law?

   Yes _____ No ✓ If yes, please explain:

2. Are you aware of any activity and use limitations, such as, engineering controls, land use restrictions, or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

   Yes _____ No ✓ If yes, please explain:

3. As the user of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   Yes _____ No ✓ If yes, please explain:

4. Does the purchase price for this property reasonably reflect the fair market value of the property?

   Yes ✓ No _____ If no, please explain:

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the Consultant to identify conditions indicative of releases or threatened releases of hazardous waste or petroleum products?

   Yes _____ No ✓ If yes, please explain:

6. As the user of this ESA, based on your knowledge and experience related to that property are there any obvious indicators that point to the likely presence of contamination at the property?

   Yes _____ No ✓ If yes, please explain:

7. Pursuant to ASTM E 1527-13, do you know whether any of the following documents exist related to the subject property and, if so, whether copies can and will be provided to the Consultant?

   ☐ Environmental Site Assessment Reports, ☐ Environmental Compliance Reports, ☐ Geotechnical Studies, ☐ Reports regarding hydrogeologic conditions, ☐ Registrations for above or underground storage tanks, ☐ Notices or other correspondence from any governmental agencies relating to past or current violations of environmental laws, ☐ Registrations for underground injection systems, or ☐ Environmental permits, plans, hazardous waste disposal permits, wastewater permits, NDPES permits, underground injection permits, or SPCC plans.

Name: Rebecca Binford Date: 4/11/22

D. HISTORICAL RESEARCH DOCUMENTATION

HISTORICAL AERIALS

Project Property: Two Parcels
105 Michigan St
Lawrence KS 66044

Project No: 13008

Requested By: Solid Ground Environmental

Order No: 22041201154

Date Completed: April 14,2022

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Date	Source	Scale	Comments
2019	United States Department of Agriculture	1" = 500'	
2017	United States Department of Agriculture	1" = 500'	
2015	United States Department of Agriculture	1" = 500'	
2014	United States Department of Agriculture	1" = 500'	
2012	United States Department of Agriculture	1" = 500'	
2010	United States Department of Agriculture	1" = 500'	
2008	United States Department of Agriculture	1" = 500'	
2006	United States Department of Agriculture	1" = 500'	
2005	United States Department of Agriculture	1" = 500'	
2004	United States Department of Agriculture	1" = 500'	
2003	United States Department of Agriculture	1" = 500'	
2002	United States Geological Survey	1" = 500'	
1991	United States Geological Survey	1" = 500'	
1985	United States Geological Survey	1" = 500'	
1982	United States Geological Survey	1" = 500'	
1977	United States Geological Survey	1" = 500'	
1970	National Aeronautics And Space Admin	1" = 500'	
1967	United States Geological Survey	1" = 500'	
1959	Agricultural Stabilization & Conserv. Service	1" = 500'	Photo Index-Best Available
1950	Army Mapping Service	1" = 500'	Best Copy Available
1948	United States Geological Survey	1" = 500'	
1937	Agricultural Stabilization & Conserv. Service	1" = 500'	

Year: 2019
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2017
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2015
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2014
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

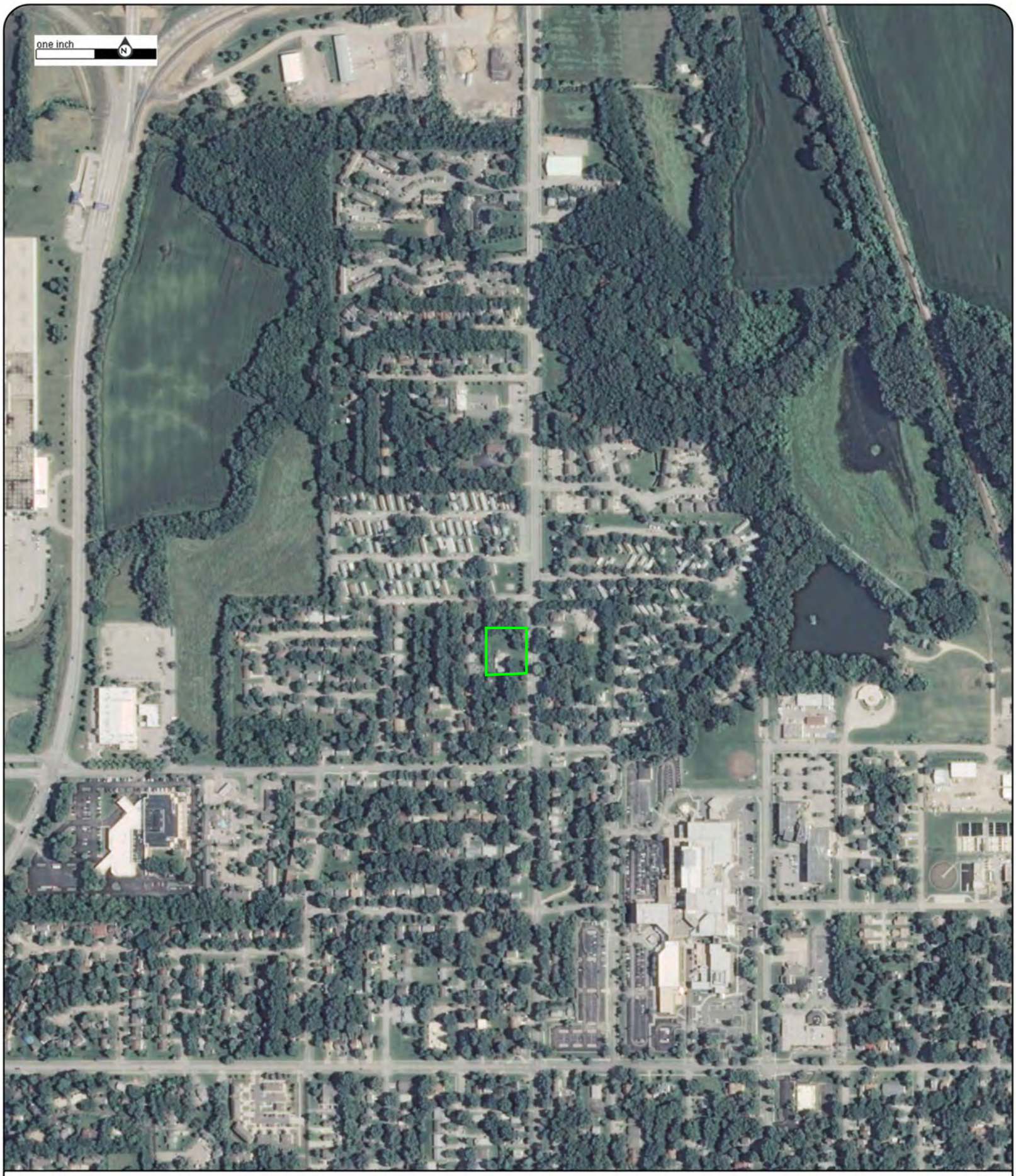
ERIS

Year: 2012
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

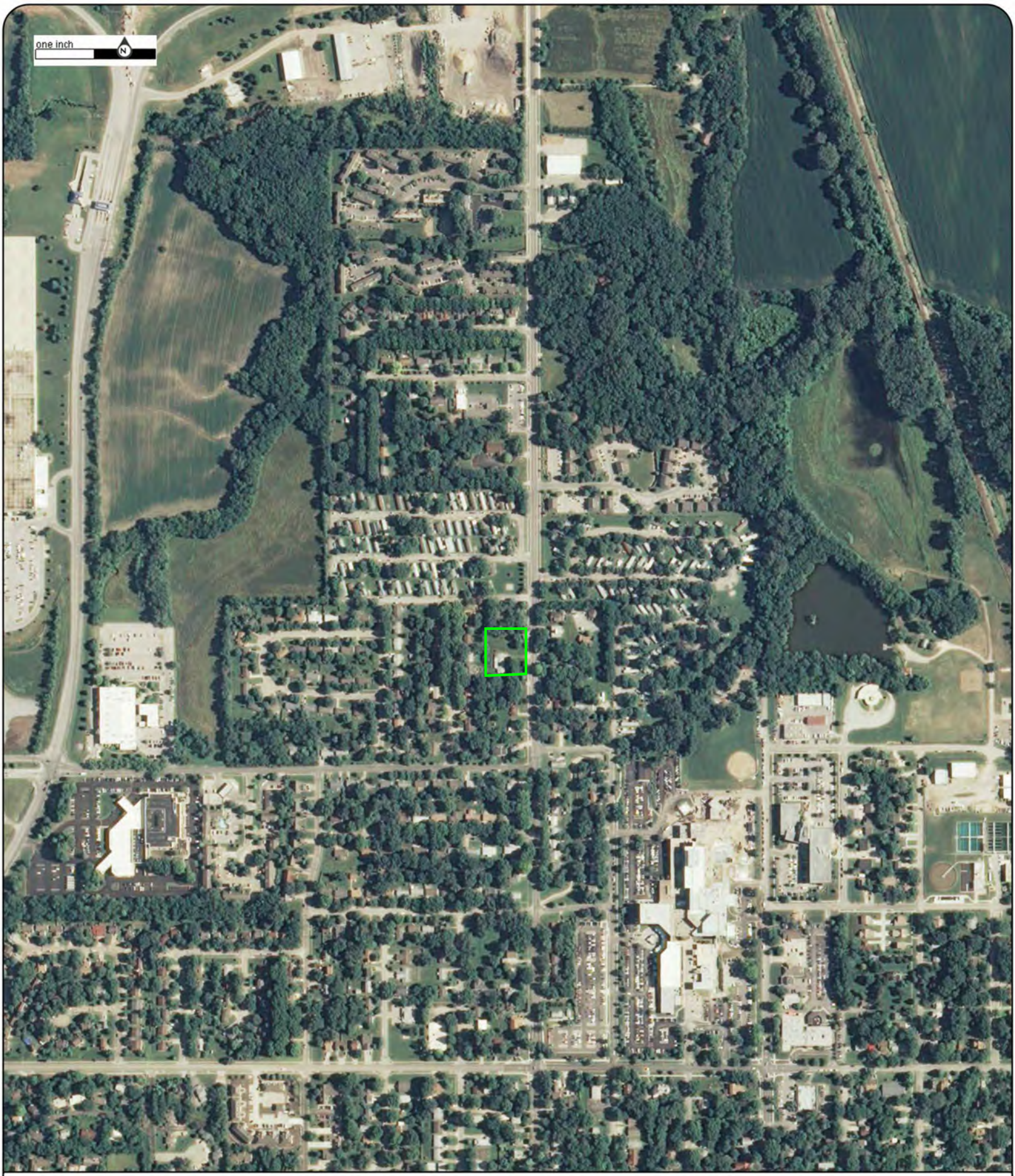


Year: 2010
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

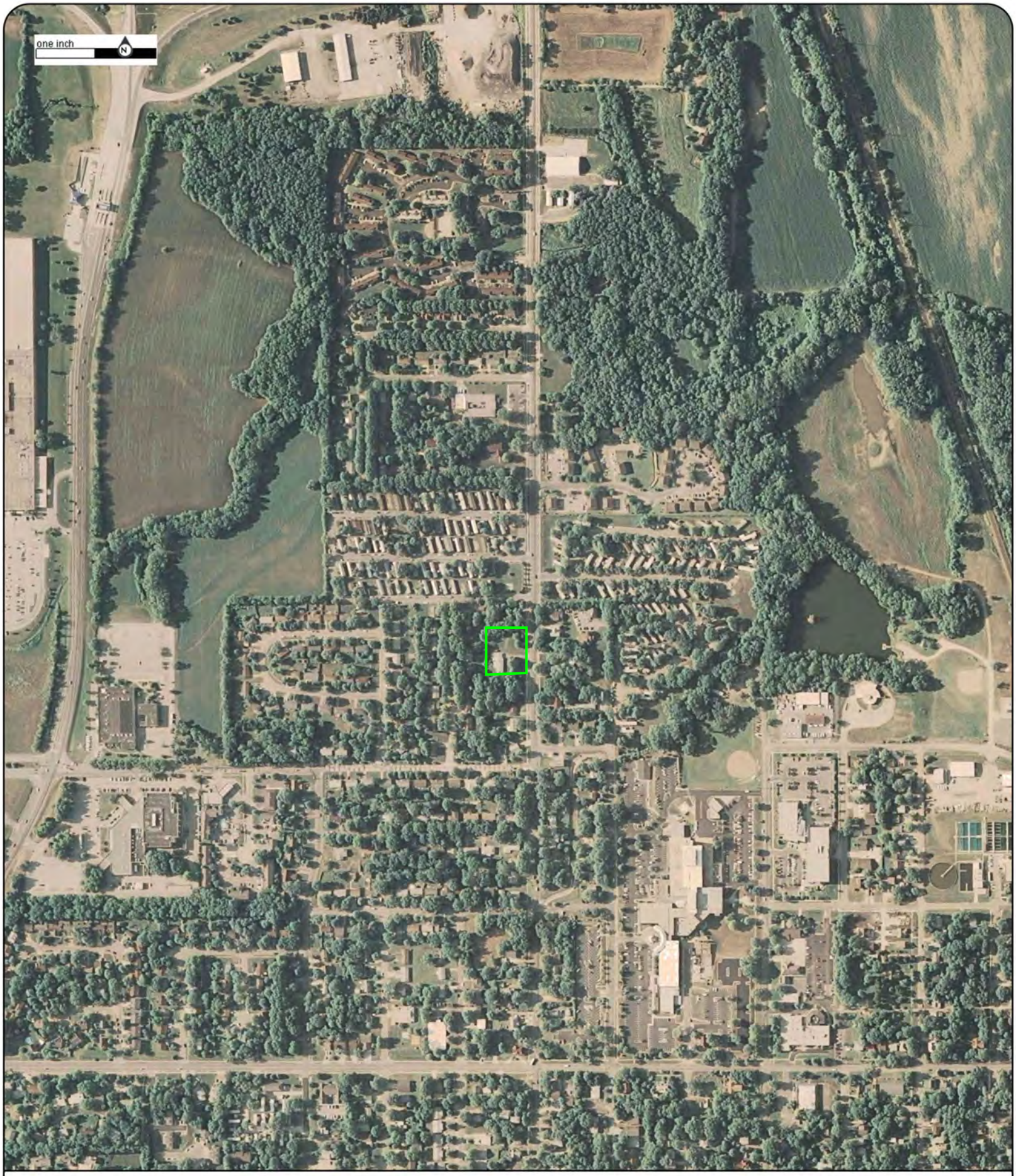


Year: 2008
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS



Year: 2006
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2005
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2004
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2003
Source: USDA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 2002
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1991
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1985
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1982
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1977
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1970
Source: NASA
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1967
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1959
Source: ASCS
Scale: 1" = 500'
Comment: Photo Index-Best Available

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1950
Source: AMS
Scale: 1" = 500'
Comment: Best Copy Available

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1948
Source: USGS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

Year: 1937
Source: ASCS
Scale: 1" = 500'
Comment:

Address: 105 Michigan St, Lawrence, KS
Approx Center: -95.25156585,38.98186225

Order No: 22041201154

ERIS

FIRE INSURANCE MAPS

Project Property:	Two Parcels 105 Michigan St Lawrence KS 66044
Project No:	13008
Requested By:	Solid Ground Environmental
Order No:	22041201154
Date Completed:	April 13, 2022

Please note that no information was found for your site or adjacent properties.

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

TOPOGRAPHIC MAPS

Project Property:	Two Parcels 105 Michigan St Lawrence KS 66044
Project No:	13008
Requested By:	Solid Ground Environmental
Order No:	22041201154
Date Completed:	April 13, 2022

Environmental Risk Information Services
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1.866.517.5204 | info@erisinfo.com | erisinfo.com

We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2018	7.5
2016	7.5
2015	7.5
2012	7.5
1994	7.5
1978	7.5
1967	7.5
1951	7.5
1950	7.5
1949	7.5

Topographic Map Symbology for the maps may be available in the following documents:

Pre-1947

Page 223 of 1918 Topographic Instructions

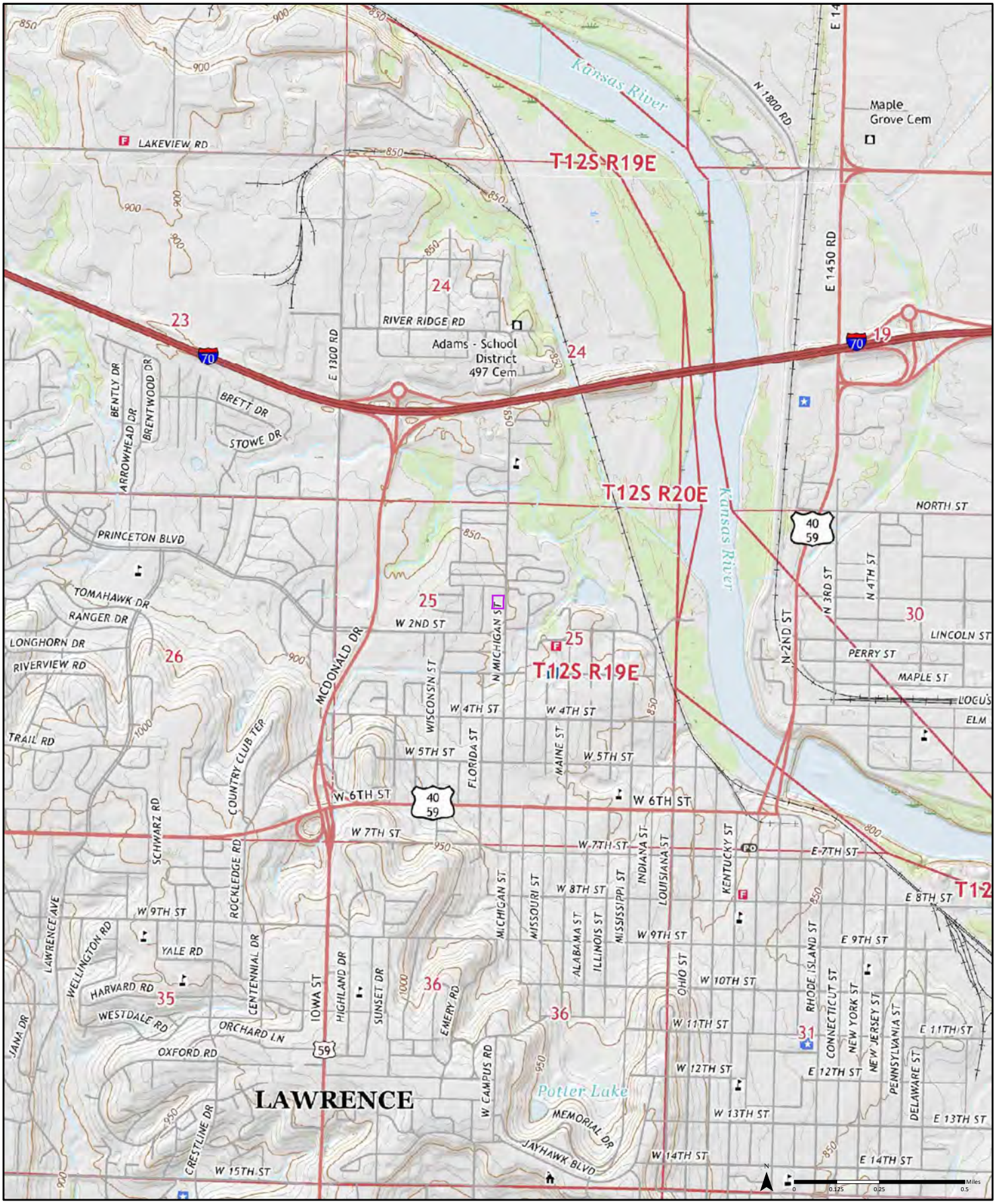
Page 130 of 1928 Topographic Instructions

1947-2009

Topographic Map Symbols

2009-present

US Topo Map Symbols

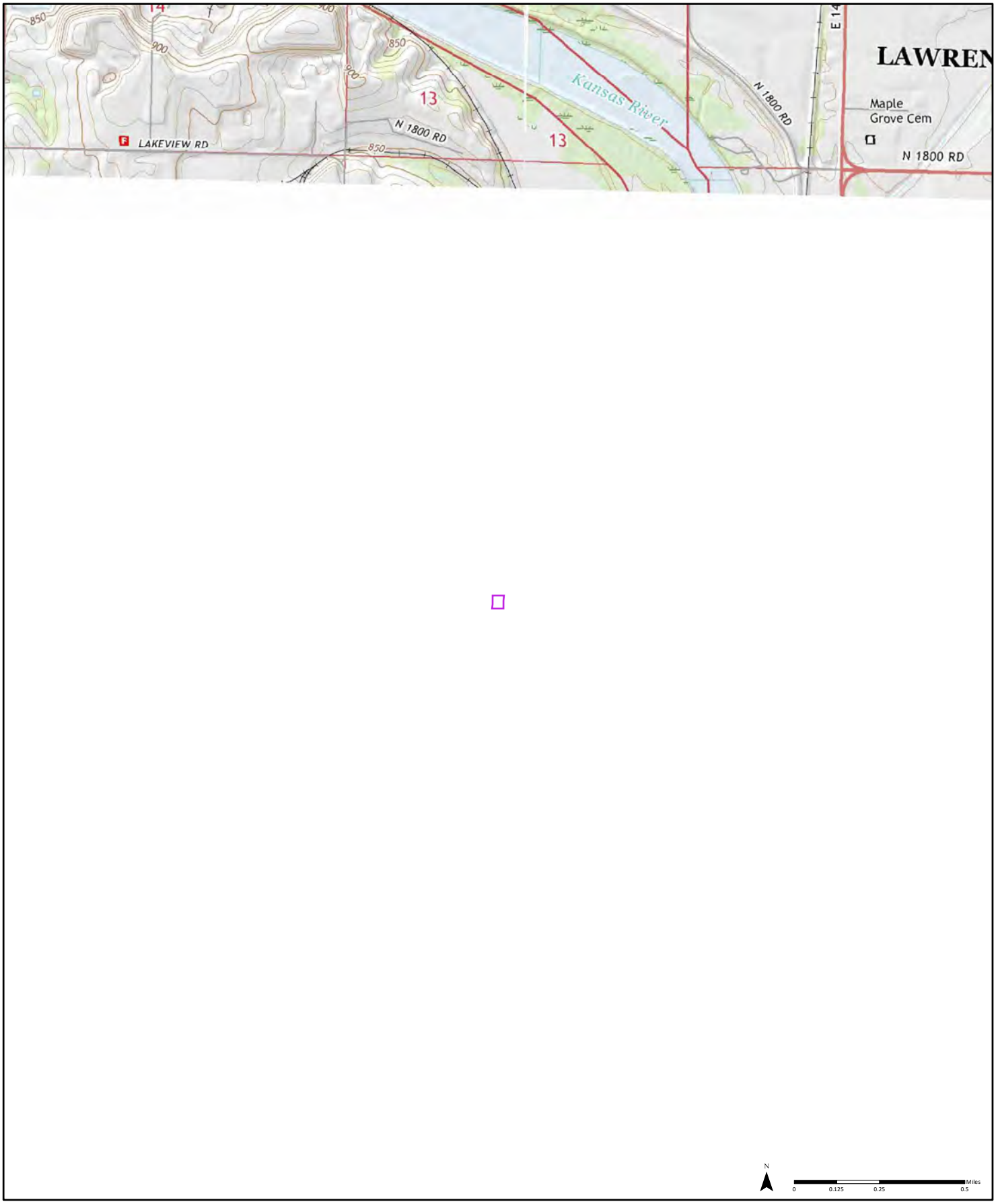


2018

Quadrangle(s): Midland, KS; Williamstown, KS; Lawrence West, KS; Lawrence East, KS

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

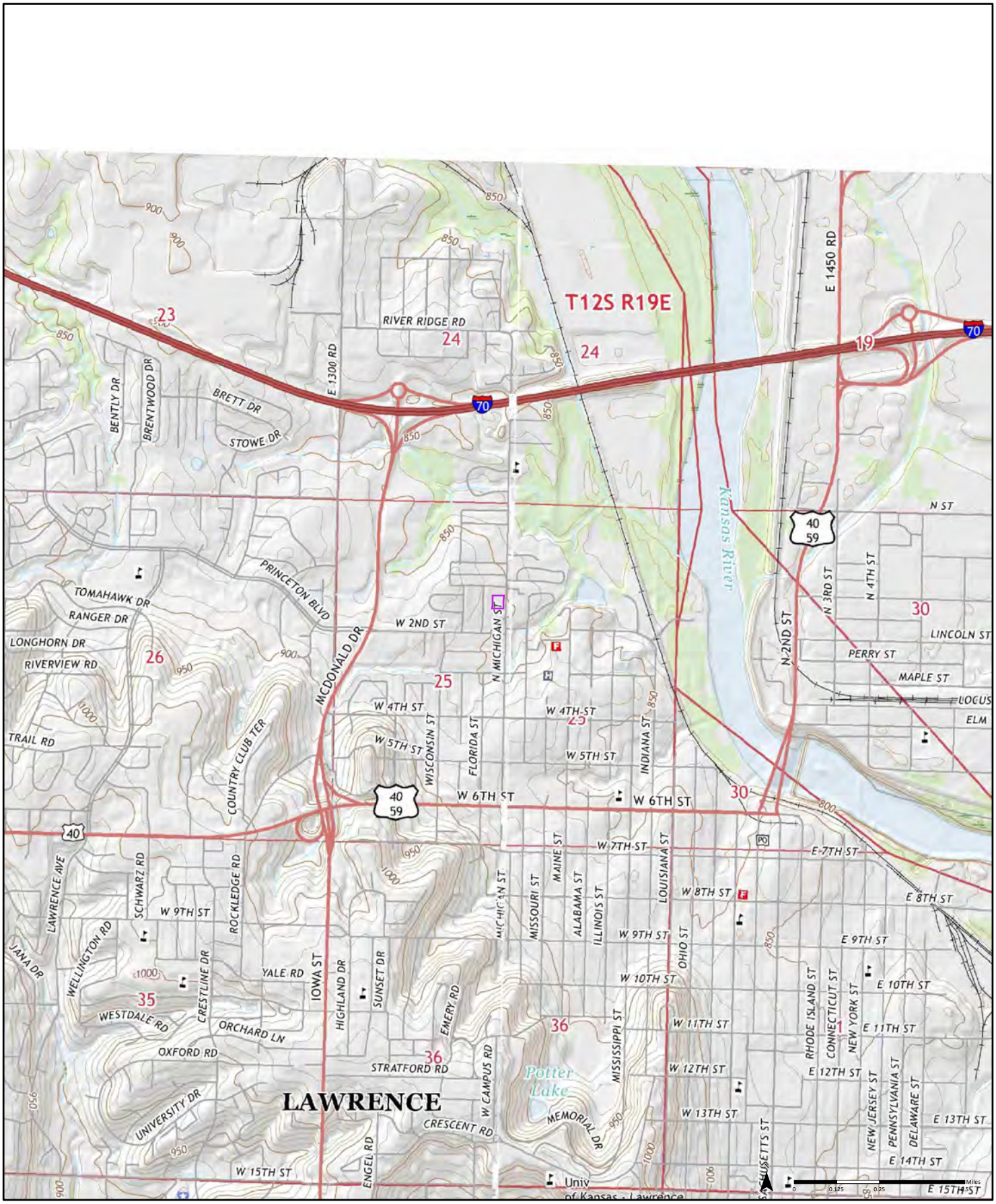


2016

Quadrangle(s): Williamstown, KS; Midland, KS

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

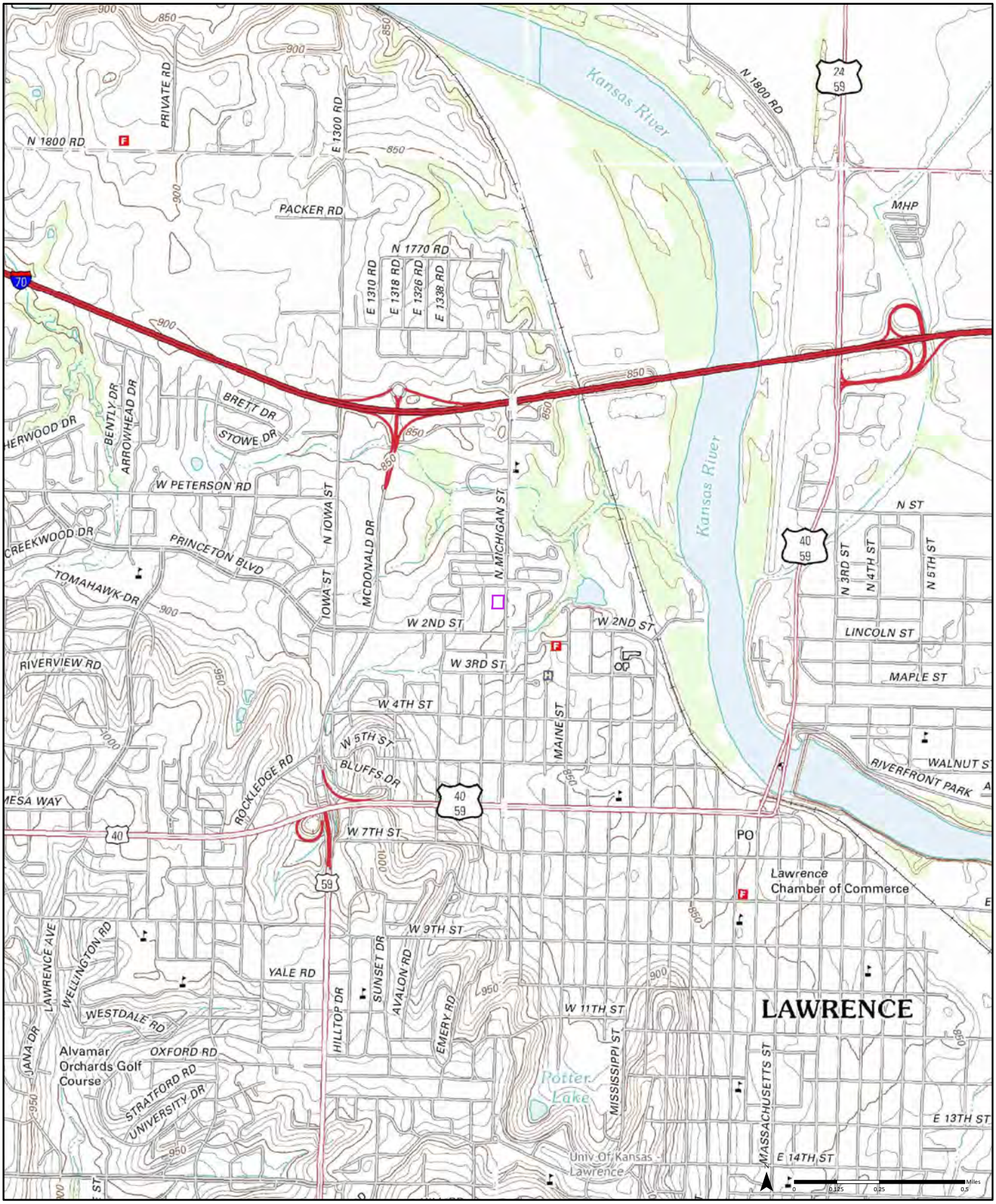


2015

Quadrangle(s): Lawrence West, KS; Lawrence East, KS

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

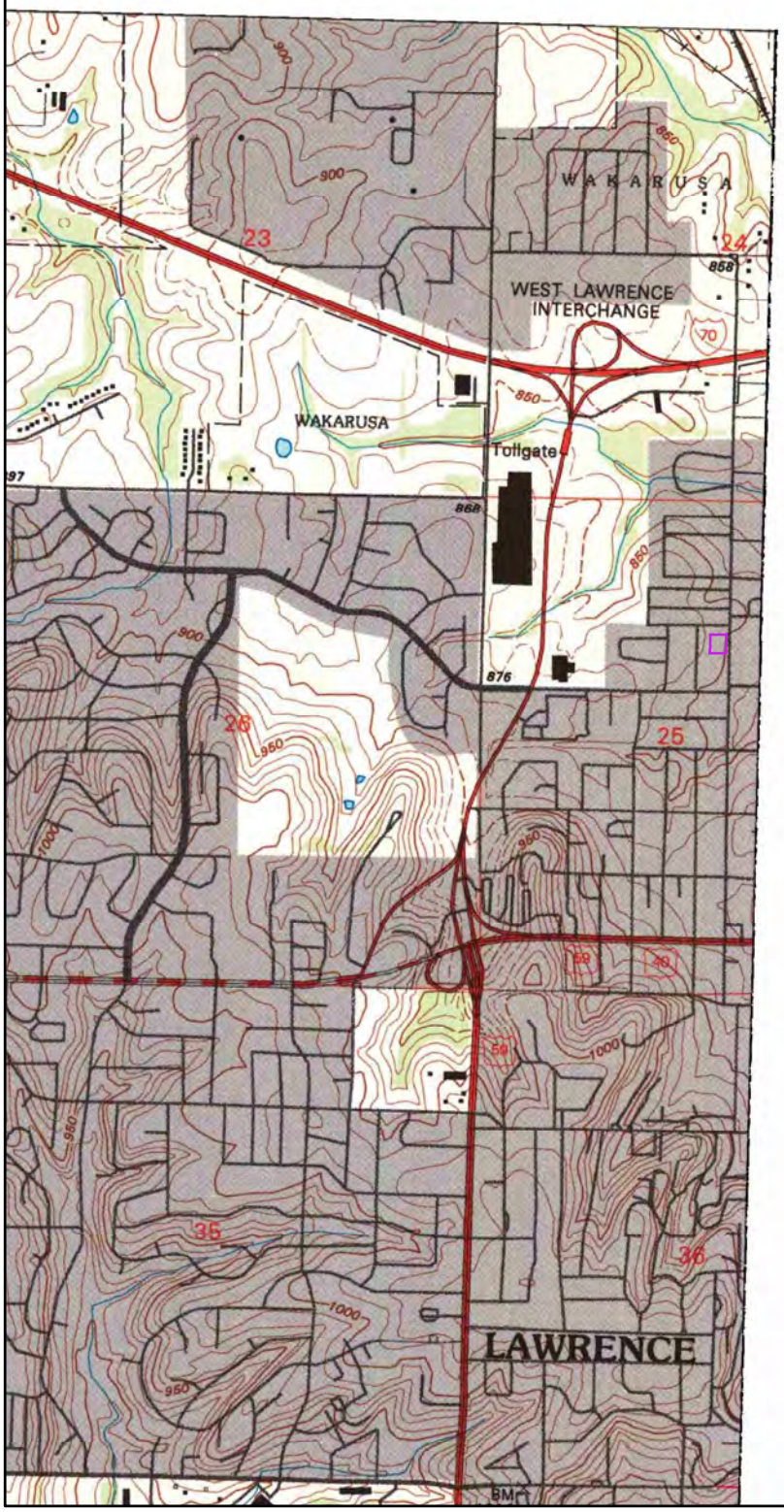


2012

Quadrangle(s): Williamstown, KS; Lawrence East, KS; Lawrence West, KS; Midland, KS

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map



1994 (1)

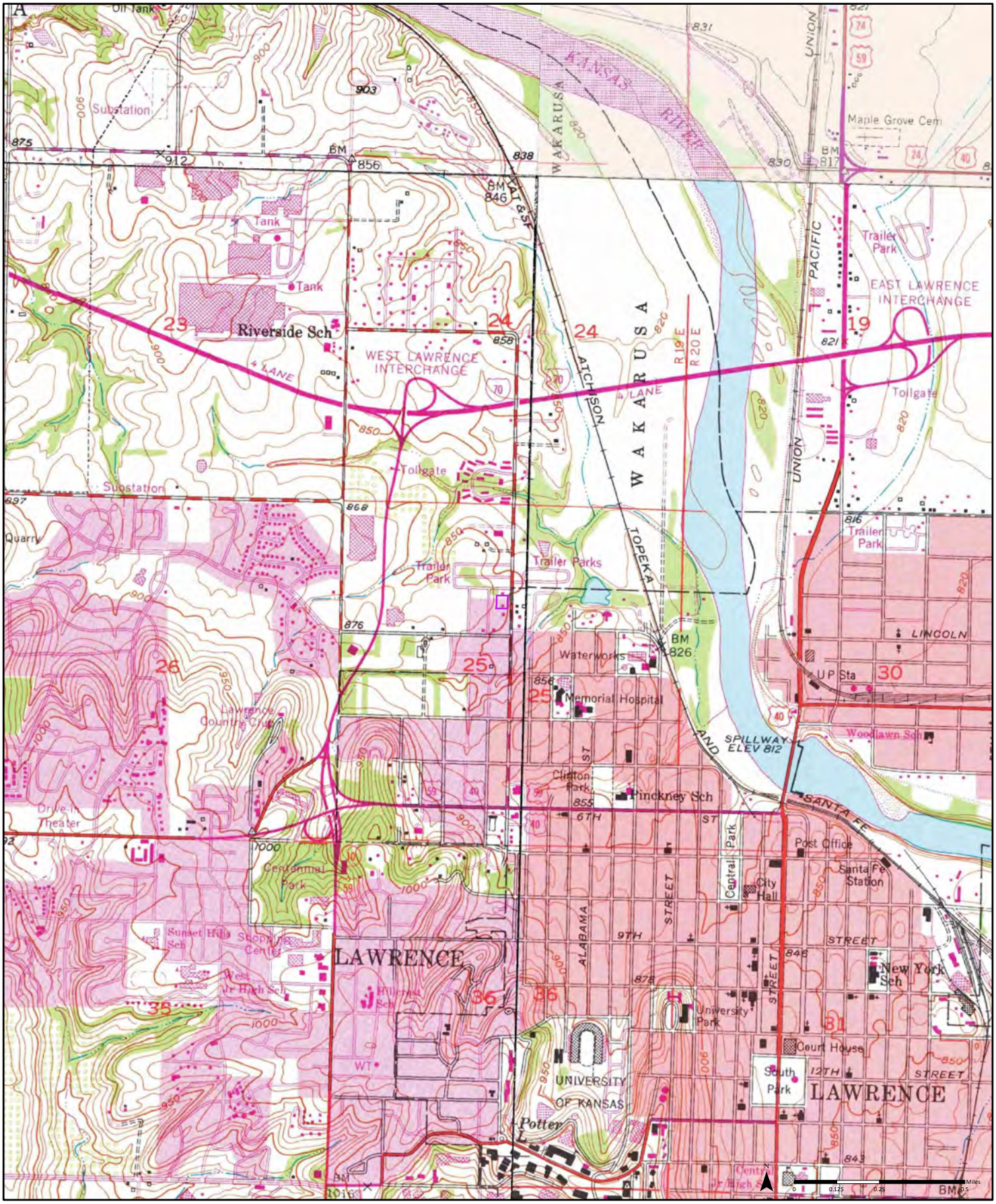
Aerial Photo Year: 1991

Quadrangle(s): Lawrence West, KS(1)

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

ERIS



1978

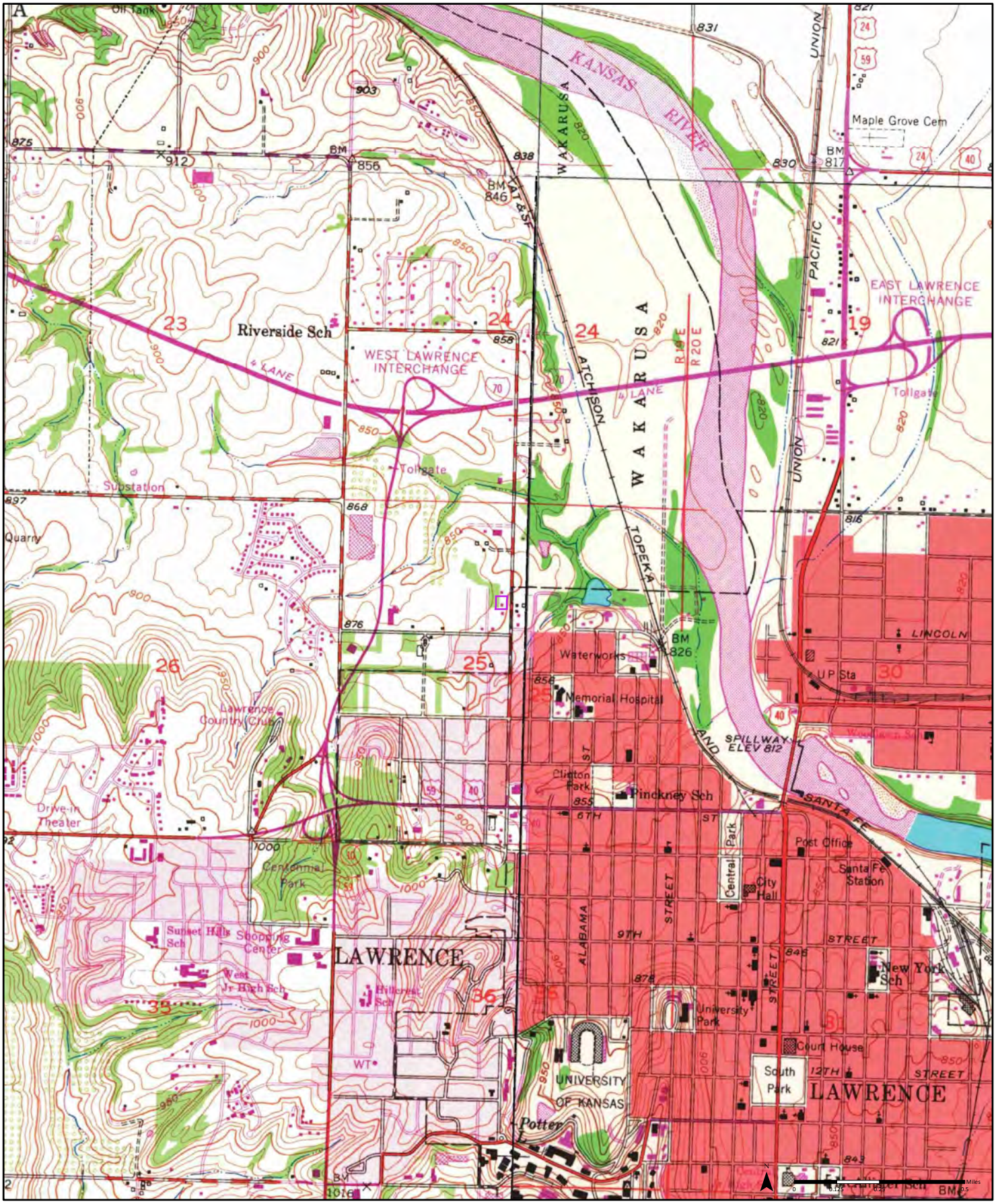
(1)	(2)	(3)	(4)
Aerial Photo Year: 1977	Aerial Photo Year: 1977	Aerial Photo Year: 1977	Aerial Photo Year: 1977
Photo Revision Year: 1978	Photo Revision Year: 1978	Photo Revision Year: 1978	Photo Revision Year: 1978

Quadrangle(s): Williamstown, KS(1); Lawrence West, KS(2); Lawrence East, KS(3); Midland, KS(4)

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

ERIS



1967

(1) Aerial Photo Year: 1967 Photo Revision Year: 1967

(2) Aerial Photo Year: 1967 Photo Revision Year: 1967

(3) Aerial Photo Year: 1967 Photo Revision Year: 1967

(4) Aerial Photo Year: 1967 Photo Revision Year: 1967

Quadrangle(s): Lawrence West, KS(1); Lawrence East, KS(2); Midland, KS(3); Williamstown, KS(4)

Order No. 22041201154

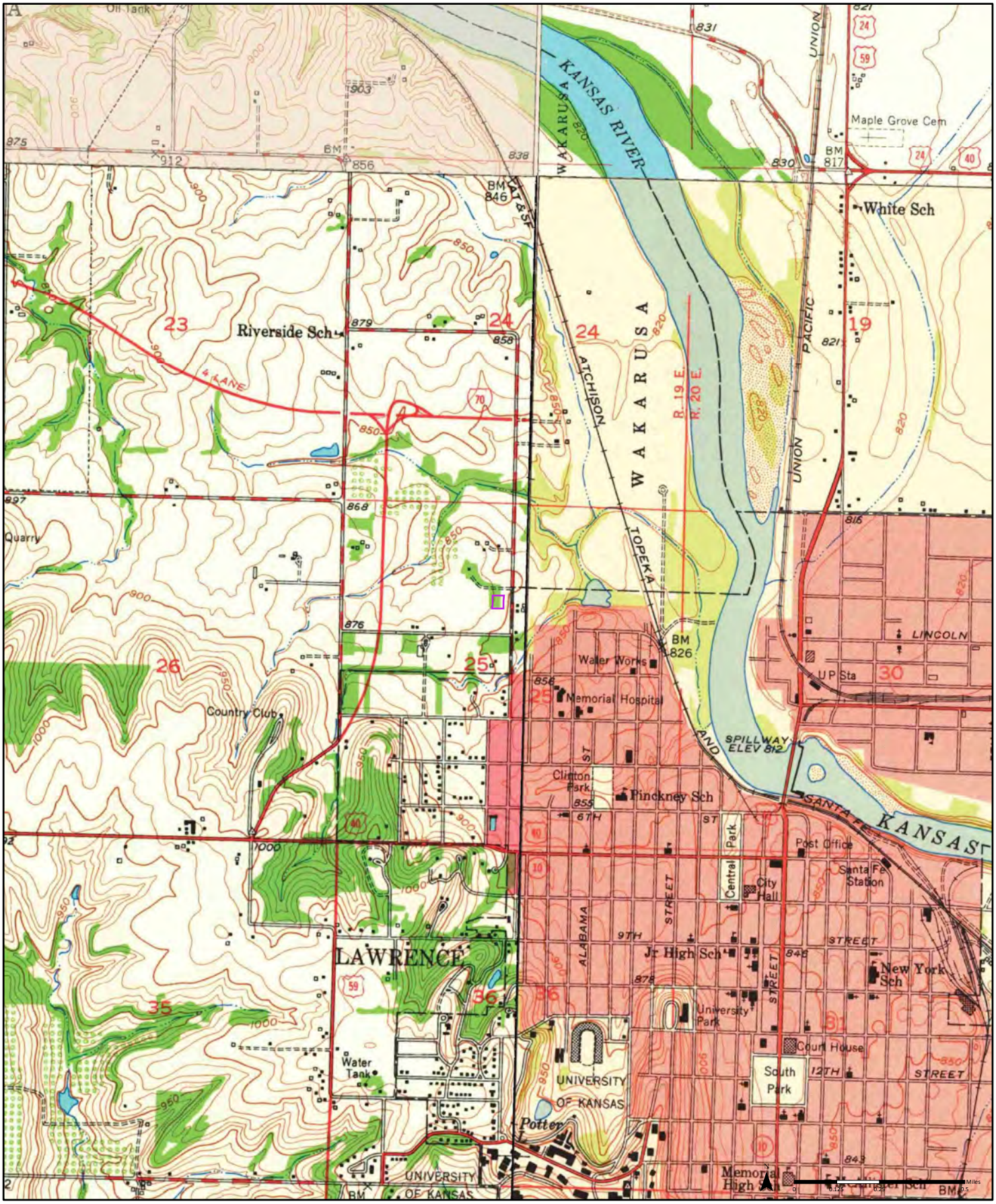
Source: USGS 7.5 Minute Topographic Map

1951 (1) *Aerial Photo Year: 1948* (2) *Aerial Photo Year: 1948*

Quadrangle(s): Midland, KS(1); Lawrence West, KS(2)

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map



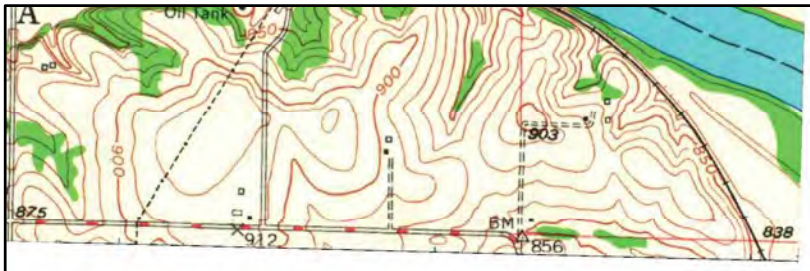
1950 (1) Aerial Photo Year: 1948 (2) Aerial Photo Year: 1948 (3) Aerial Photo Year: 1948 (4) Aerial Photo Year: 1948

Quadrangle(s): Williamstown, KS(1); Midland, KS(2); Lawrence West, KS(3); Lawrence East, KS(4)

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

ERIS



N

0 0.125 0.25 0.5 Miles

1949 (1)

Aerial Photo Year: 1948

Quadrangle(s): Williamstown, KS(1)

Order No. 22041201154

Source: USGS 7.5 Minute Topographic Map

ERIS

CITY DIRECTORY

Project Property:	*Two Parcels* *105 Michigan St* *Lawrence,KS 66044*
Project No:	*13008*
Requested By:	*Solid Ground Environmental*
Order No:	*22041201154*
Date Completed:	*April 15, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

April 15, 2022
RE: CITY DIRECTORY RESEARCH
105 Michigan St
Lawrence,KS 66044

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
110-149 of Florida St
100-222 of Michigan Street
Search Notes:

Search Results Summary

Date	Source	Comment
2020	DIGITAL BUSINESS DIRECTORY	
2016	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2008	DIGITAL BUSINESS DIRECTORY	
2003	DIGITAL BUSINESS DIRECTORY	
2000	DIGITAL BUSINESS DIRECTORY	
1996	POLKS	
1991	POLKS	
1986	POLKS	
1981	POLKS	
1976	POLKS	
1970	POLKS	
1966	POLKS	
1963	POLKS	
1957	CROSS REFERENCE	
1950	POLKS	
1944	CROSS REFERENCE	
1941	CROSS REFERENCE	
1935	CROSS REFERENCE	
1929-30	CALNONS	
1925	POLKS	

2020 FLORIDA ST

SOURCE: DIGITAL BUSINESS DIRECTORY

120 **CATHY NARCOMEY**...*RESIDENTIAL*
121 **CONNOR SMITH**...*RESIDENTIAL*
121 **KENDRA HOLIDAY**...*RESIDENTIAL*
121 **MIKE CRISS**...*RESIDENTIAL*
121 **TERE LASTER**...*RESIDENTIAL*
124 **KENNETH BEARD**...*RESIDENTIAL*
125 **JUDA MARRS**...*RESIDENTIAL*
129 **MARCUS KUEPKER**...*RESIDENTIAL*
132 **RICHARD BALLARD**...*RESIDENTIAL*
133 **THOMAS HILGER**...*RESIDENTIAL*
136 **ANDREA JOHNSON**...*RESIDENTIAL*
137 **CHRISTINA LOCKHART**...*RESIDENTIAL*
140 **MEREDITH RAFFO**...*RESIDENTIAL*
141 **JOE ROMERO**...*RESIDENTIAL*
144 **SHELLY WAKEMAN**...*RESIDENTIAL*
145 **JAMES PATTERSON**...*RESIDENTIAL*
145 **SHIRLEY PATTERSON**...*RESIDENTIAL*

2020 MICHIGAN STREET

SOURCE: DIGITAL BUSINESS DIRECTORY

103 **INEZ CRAWFORD**...*RESIDENTIAL*
103 **STEPHANIE CRAWFORD**...*RESIDENTIAL*
110 **BRANDON SNOW**...*RESIDENTIAL*
110 **EUGENE BELL**...*RESIDENTIAL*
110 **GRACE ALLEN**...*RESIDENTIAL*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARK DEVELOPERS*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARKS & COMMUNITIES*
110 **TERESSA HARVEY**...*RESIDENTIAL*
129 **CHRISTOPHER ATKEISSON**...*RESIDENTIAL*
132 **TIM BAXTER**...*RESIDENTIAL*
135 **EVELYN ATHEY**...*RESIDENTIAL*
141 **JULIA ANDERSON**...*RESIDENTIAL*
202 **MICHAEL JOHNSON**...*RESIDENTIAL*
209 **HYUN KIM**...*RESIDENTIAL*
209 **MICHAEL EDIGER**...*RESIDENTIAL*
214 **LUTHER GALLOWAY**...*RESIDENTIAL*
218 **ASHLEY ABBOTT**...*RESIDENTIAL*

2016 FLORIDA ST

SOURCE: DIGITAL BUSINESS DIRECTORY

121 **KENDRA HOLIDAY**...*RESIDENTIAL*
121 **MIKE CRISS**...*RESIDENTIAL*
124 **KENNETH BEARD**...*RESIDENTIAL*
124 **MICHELLE BEARD**...*RESIDENTIAL*
124 **RACHEL BEARD**...*RESIDENTIAL*
124 **SCOTT BEARD**...*RESIDENTIAL*
125 **JUDA MARRS**...*RESIDENTIAL*
125 **STEPHEN MARRS**...*RESIDENTIAL*
129 **MARCUS KUEPKER**...*RESIDENTIAL*
132 **RICHARD BALLARD**...*RESIDENTIAL*
132 **WILMA BALLARD**...*RESIDENTIAL*
133 **THOMAS HILGER**...*RESIDENTIAL*
136 **ANDREA JOHNSON**...*RESIDENTIAL*
136 **GLORIA JOHNSON**...*RESIDENTIAL*
137 **CHRISTINA LOCKHART**...*RESIDENTIAL*
137 **JEFFREY LOCKHART**...*RESIDENTIAL*
137 **SANDRA LOCKHART**...*RESIDENTIAL*
140 **MEREDITH RAFFO**...*RESIDENTIAL*
141 **JOE ROMERO**...*RESIDENTIAL*
141 **SUSAN ROMERO**...*RESIDENTIAL*
144 **SHELLY WAKEMAN**...*RESIDENTIAL*
145 **JAMES PATTERSON**...*RESIDENTIAL*
145 **JOSEPH PATTERSON**...*RESIDENTIAL*
145 **SHIRLEY PATTERSON**...*RESIDENTIAL*

2016 MICHIGAN STREET

SOURCE: DIGITAL BUSINESS DIRECTORY

103 **INEZ CRAWFORD**...*RESIDENTIAL*
103 **STEPHANIE CRAWFORD**...*RESIDENTIAL*
110 **BRANDON SNOW**...*RESIDENTIAL*
110 **BRENDA SNOW**...*RESIDENTIAL*
110 **GRACE ALLEN**...*RESIDENTIAL*
110 **JOHNNY SNOW**...*RESIDENTIAL*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARK DEVELOPERS*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARKS & COMMUNITIES*
110 **TERESSA HARVEY**...*RESIDENTIAL*
129 **CHRISTOPHER ATKEISSON**...*RESIDENTIAL*
129 **JULIA ATKEISSON**...*RESIDENTIAL*
132 **CARL KISER**...*RESIDENTIAL*
135 **EVELYN ATHEY**...*RESIDENTIAL*
141 **JULIA ANDERSON**...*RESIDENTIAL*
209 **HYUN KIM**...*RESIDENTIAL*
209 **MICHAEL EDIGER**...*RESIDENTIAL*
209 **YUNHI EDIGER**...*RESIDENTIAL*
214 **LUTHER GALLOWAY**...*RESIDENTIAL*
218 **ASHLEY ABBOTT**...*RESIDENTIAL*
218 **CALVIN ABBOTT II**...*RESIDENTIAL*
218 **GEORGE ABBOTT II**...*RESIDENTIAL*
218 **MELISSA ABBOTT**...*RESIDENTIAL*

2012 FLORIDA ST

SOURCE: DIGITAL BUSINESS DIRECTORY

124 **KENNETH BEARD**...*RESIDENTIAL*
124 **RACHEL BEARD**...*RESIDENTIAL*
124 **SCOTT BEARD**...*RESIDENTIAL*
125 **STEPHEN MARRS**...*RESIDENTIAL*
128 **DOLLY JOHNSON**...*RESIDENTIAL*
129 **MARCUS KUEPKER**...*RESIDENTIAL*
132 **WILMA BALLARD**...*RESIDENTIAL*
137 **CHRISTY LOCKHART**...*RESIDENTIAL*
137 **JEFF LOCKHART**...*RESIDENTIAL*
137 **JEFFREY LOCKHART**...*RESIDENTIAL*
137 **M LOCKHART**...*RESIDENTIAL*
141 **JOE ROMERO**...*RESIDENTIAL*
141 **SUSAN ROMERO**...*RESIDENTIAL*
144 **SHELLY WAKEMAN**...*RESIDENTIAL*
145 **SHIRLEY PATTERSON**...*RESIDENTIAL*

2012 MICHIGAN STREET

SOURCE: DIGITAL BUSINESS DIRECTORY

103 **INEZ CRAWFORD**...*RESIDENTIAL*
103 **STEPHANIE CRAWFORD**...*RESIDENTIAL*
105 **WILMA FISHER**...*RESIDENTIAL*
110 **DALE ARFMANN**...*RESIDENTIAL*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARKS & COMMUNITIES*
110 **RANDY SCHIMMEL**...*RESIDENTIAL*
129 **CHRISTOPHER ATKEISSON**...*RESIDENTIAL*
129 **JULIA ATKEISSON**...*RESIDENTIAL*
130 **SHELTON KISER**...*RESIDENTIAL*
132 **DON BAXTER**...*RESIDENTIAL*
132 **LINDSAY BAXTER**...*RESIDENTIAL*
141 **TANYA HARTMAN**...*RESIDENTIAL*
202 **M JOHNSON**...*RESIDENTIAL*
209 **MICHAEL EDIGER**...*RESIDENTIAL*
214 **JESSICA PRYOR**...*RESIDENTIAL*
218 **GEORGE ABBOTT**...*RESIDENTIAL*

2008 FLORIDA ST

SOURCE: DIGITAL BUSINESS DIRECTORY

117 **LORI HALE**...*RESIDENTIAL*
117 **RANDY E GUTHRIE**...*RESIDENTIAL*
120 **DAN & CATHY NARCOMEY**...*RESIDENTIAL*
121 **N KNAPP**...*RESIDENTIAL*
124 **SCOTT & MICHELLE BEARD**...*RESIDENTIAL*
125 **STEPHEN MARRS**...*RESIDENTIAL*
128 **DOLLY JOHNSON**...*RESIDENTIAL*
129 **MARCUS KUEPKER**...*RESIDENTIAL*
132 **RICHARD L BALLARD**...*RESIDENTIAL*
133 **TOM HILGER**...*RESIDENTIAL*
137 **ASHLEY LOCKHART**...*RESIDENTIAL*
137 **JEFF LOCKHART**...*RESIDENTIAL*
140 **MEREDITH RAFFO**...*RESIDENTIAL*
141 **JOE ROMERO**...*RESIDENTIAL*
145 **JOSEPH A PATTERSON**...*RESIDENTIAL*
149 **JAMES THORNTON**...*RESIDENTIAL*

2008 MICHIGAN STREET

SOURCE: DIGITAL BUSINESS DIRECTORY

103 **I CRAWFORD**...*RESIDENTIAL*
105 **ARMAND T FISHER**...*RESIDENTIAL*
110 **B K HARDING**...*RESIDENTIAL*
110 **BRIAN W SILVERS**...*RESIDENTIAL*
110 **D J AYERS**...*RESIDENTIAL*
110 **DALE ARFMANN**...*RESIDENTIAL*
110 **GRACE ALLEN**...*RESIDENTIAL*
110 **JACK & DIANA SMITH**...*RESIDENTIAL*
110 **JAMES MACE**...*RESIDENTIAL*
110 **KIM K HATCH**...*RESIDENTIAL*
110 **LARRY E LAKIN**...*RESIDENTIAL*
110 **MOBILE VILLAGE II**...*MOBILE HOMES-PARKS & COMMUNITIES*
110 **PATTI HAWKINS**...*RESIDENTIAL*
110 **R S EISENBARGER**...*RESIDENTIAL*
110 **RANDY SCHIMMEL**...*RESIDENTIAL*
110 **RAY HIGGINS**...*RESIDENTIAL*
110 **ROBERT & LUCILLE TUCKEL**...*RESIDENTIAL*
110 **SHYLO PAULY**...*RESIDENTIAL*
110 **W E PLACE**...*RESIDENTIAL*
124 **TERRY MANGUM**...*RESIDENTIAL*
129 **CHRIS ATKEISSON**...*RESIDENTIAL*
130 **SHELTON KISER**...*RESIDENTIAL*
132 **DON & NORMA BAXTER**...*RESIDENTIAL*
132 **TIM BAXTER**...*RESIDENTIAL*
135 **SUSAN & CHARLIE WILLIAMS**...*RESIDENTIAL*
141 **JULIA B ANDERSON**...*RESIDENTIAL*
202 **T LAUGHLIN**...*RESIDENTIAL*
203 **KIM KITZMAN**...*RESIDENTIAL*
206 **ROCKY MCGAUGH**...*RESIDENTIAL*
209 **MICHAEL L EDIGER**...*RESIDENTIAL*

120 DONALD KNIGHT...RESIDENTIAL
121 MICHAEL P & LANA R HAYES...RESIDENTIAL
124 SCOTT & MICHELLE BEARD...RESIDENTIAL
125 STEPHEN MARRS...RESIDENTIAL
128 JACK & SHEILA TOON...RESIDENTIAL
129 MARCUS KUEPKER...RESIDENTIAL
132 BRAD BALLARD...RESIDENTIAL
132 RICHARD L BALLARD...RESIDENTIAL
133 HERB ALTENBERND...RESIDENTIAL
137 ASHLEY LOCKHART...RESIDENTIAL
137 JEFF LOCKHART...RESIDENTIAL
140 R D MATHIS...RESIDENTIAL
141 JOE ROMERO...RESIDENTIAL
144 WILLIAM JR WHITEHEAD...RESIDENTIAL
145 JOSEPH A PATTERSON...RESIDENTIAL
149 M C BARKLEY...RESIDENTIAL

101 B WALKER...RESIDENTIAL
101 JOE & TINA MORGISON...RESIDENTIAL
101 JONATHAN W BRUNSWIG...RESIDENTIAL
101 P L CHILDRENS TELEPHONE PORTER...RESIDENTIAL
101 RON ARMSTRONG...RESIDENTIAL
103 I CRAWFORD...RESIDENTIAL
105 ARMAND T FISHER...RESIDENTIAL
110 BRIDGET LUCY...RESIDENTIAL
110 COZELLE FLEMING...RESIDENTIAL
110 DALE ARFMANN...RESIDENTIAL
110 DAN SLIFER...RESIDENTIAL
110 EUGENE E BELL...RESIDENTIAL
110 GRACE ALLEN...RESIDENTIAL
110 KELLY LUSSO...RESIDENTIAL
110 MARK OLSEN...RESIDENTIAL
110 MICHAEL S TOUHEY...RESIDENTIAL
110 MOBILE VILLAGE II
110 NEBA COBLE...RESIDENTIAL
110 NICK JR RAULSTEN...RESIDENTIAL
110 PATTI HAWKINS...RESIDENTIAL
110 R S EISENBARGER...RESIDENTIAL
110 RANDY SCHIMMEL...RESIDENTIAL
110 RAY HIGGINS...RESIDENTIAL
110 RICK PRUITT...RESIDENTIAL
110 ROWENA DAY...RESIDENTIAL
110 SCOTT A MOSSMAN...RESIDENTIAL
110 SHERRY FLOYD...RESIDENTIAL
110 SHYLO PAULY...RESIDENTIAL
110 TIM FOSTER...RESIDENTIAL
110 W E PLACE...RESIDENTIAL
124 C M MANGUM...RESIDENTIAL
129 CHRIS ATKEISSON...RESIDENTIAL
130 SHELTON KISZR...RESIDENTIAL
132 DON BAXTER...RESIDENTIAL
132 TIM BAXTER...RESIDENTIAL
135 ROBERT ZATORSKI...RESIDENTIAL
141 JULIA B ANDERSON...RESIDENTIAL
203 DAVID LAKE...RESIDENTIAL
203 RYAN STRASSBERG...RESIDENTIAL
206 BLAINE & PAM HAWLEY...RESIDENTIAL
209 VICKIE L OLSON...RESIDENTIAL
218 ROBERT & LYNN HEDGES...RESIDENTIAL

120 DONALD KNIGHT...RESIDENTIAL
121 MICHAEL R & LANA R HAYES...RESIDENTIAL
124 SCOTT & MICHELLE BEARD...RESIDENTIAL
125 STEPHEN MARRS...RESIDENTIAL
129 MARCUS KUEPKER...RESIDENTIAL
132 BRAD BALLARD...RESIDENTIAL
132 RICHARD L BALLARD...RESIDENTIAL
133 HERB ALTENBERND...RESIDENTIAL
137 DENNIS YARNELL...RESIDENTIAL
141 JOE ROMERO...RESIDENTIAL
144 WILLIAM J WHITEHEAD...RESIDENTIAL
145 JOSEPH A PATTERSON...RESIDENTIAL
149 MARIE C BARKLEY...RESIDENTIAL

111 total records. Part 1 of 2

101 ALFRED D SKEET...RESIDENTIAL
101 ARTHUR M CARMONA...RESIDENTIAL
101 BRIAN WALTER...RESIDENTIAL
101 CHARLES F BOONE...RESIDENTIAL
101 CLAYTON & TINA WARNER...RESIDENTIAL
101 D A SHOEMAKE...RESIDENTIAL
101 D TIDZUMP...RESIDENTIAL
101 DAN LECUYER...RESIDENTIAL
101 DAVID CORDIA...RESIDENTIAL
101 DEBRA WULF...RESIDENTIAL
101 DENNIS STAUFFER...RESIDENTIAL
101 DIANA M PEARSON...RESIDENTIAL
101 DONNA M CLARK...RESIDENTIAL
101 DOYLE WEBB...RESIDENTIAL
101 E F MURMAN...RESIDENTIAL
101 E M HODSON...RESIDENTIAL
101 ELLIS GONUSLIN...RESIDENTIAL
101 ELMO SHEPHERD...RESIDENTIAL
101 EMMA N SMITH...RESIDENTIAL
101 G HODGES...RESIDENTIAL
101 GEORGE STAUS...RESIDENTIAL
101 HENRY FORN HARRELL...RESIDENTIAL
101 I M PRICE...RESIDENTIAL
101 JAMES M PATTERSON...RESIDENTIAL
101 JOHN SCHNEIDER...RESIDENTIAL
101 JON G ENYART...RESIDENTIAL
101 KAREN NIEHOFF...RESIDENTIAL
101 M CAMERON...RESIDENTIAL
101 M DAVIS...RESIDENTIAL
101 M L SHEPARD...RESIDENTIAL
101 MARY RINKE...RESIDENTIAL
101 P L CHILDRENS TELEPHONE PORTER...RESIDENTIAL
101 P L PORTER...RESIDENTIAL
101 P M FALER...RESIDENTIAL
101 PATRICK D ENRIGHT...RESIDENTIAL
101 RANDY STRICKLAND...RESIDENTIAL
101 ROBERT L SURLES...RESIDENTIAL
101 ROBT C PROCTOR...RESIDENTIAL
101 RON ARMSTRONG...RESIDENTIAL
101 ROWENA DAY...RESIDENTIAL
101 RYAN J HANEY...RESIDENTIAL
101 S CAMPBELL...RESIDENTIAL
101 SARAH PENN...RESIDENTIAL
101 SHAWN GEORGIE...RESIDENTIAL
101 STAN & MARTHA BEATTY...RESIDENTIAL
101 STEVE ENYART...RESIDENTIAL
101 T & C HUNSECKER...RESIDENTIAL
101 T ANDREWS...RESIDENTIAL
101 TIM BOWLIN...RESIDENTIAL
101 TROY & KRISTEN ERWIN...RESIDENTIAL
101 TROY TORNEDEN...RESIDENTIAL
101 V M HAMM...RESIDENTIAL
101 W D JARRETT...RESIDENTIAL
101 WENDY KILGORE...RESIDENTIAL
101 WILLIAM B HODGE...RESIDENTIAL
103 I CRAWFORD...RESIDENTIAL
105 ARMAND T FISHER...RESIDENTIAL
110 A MILLER...RESIDENTIAL
110 ALICE HARRIS...RESIDENTIAL
110 ARTHUR R BAISE...RESIDENTIAL
110 B K HARDING...RESIDENTIAL
110 BESSIE RIST...RESIDENTIAL
110 BRIAN W SILVERS...RESIDENTIAL
110 DALE ARFMANN...RESIDENTIAL
110 DANA ROCKERS...RESIDENTIAL
110 EARL D POWELL...RESIDENTIAL
110 G RICLEY...RESIDENTIAL
110 GEORGE HILDEBRAND...RESIDENTIAL

2000 MICHIGAN STREET

SOURCE: DIGITAL BUSINESS DIRECTORY

Part 2 of 2

110 **J A ROSE**...*RESIDENTIAL*
110 **J PITZER**...*RESIDENTIAL*
110 **JACK SMITH**...*RESIDENTIAL*
110 **JAMES MACE**...*RESIDENTIAL*
110 **JAMIE SCHULZ**...*RESIDENTIAL*
110 **JANNA COYNE**...*RESIDENTIAL*
110 **JEFFREY ODOM**...*RESIDENTIAL*
110 **JOHN WEBER**...*RESIDENTIAL*
110 **K FREITAG**...*RESIDENTIAL*
110 **KIJUNE PARK**...*RESIDENTIAL*
110 **LARRY E LAKIN**...*RESIDENTIAL*
110 **M J AWTREY**...*RESIDENTIAL*
110 **MARIE THOMPSON**...*RESIDENTIAL*
110 **MARK OLSEN**...*RESIDENTIAL*
110 **MOBILE VILLAGE II**
110 **NATE HARJO**...*RESIDENTIAL*
110 **NEBA COBLE**...*RESIDENTIAL*
110 **NICK JR RAULSTEN**...*RESIDENTIAL*
110 **R S EISENBARGER**...*RESIDENTIAL*
110 **RANDY SCHIMMEL**...*RESIDENTIAL*
110 **RAY CALDERWOOD**...*RESIDENTIAL*
110 **ROBERT R AYERS**...*RESIDENTIAL*
110 **ROBT & LUCILLE TUCKEL**...*RESIDENTIAL*
110 **S FINDLEY**...*RESIDENTIAL*
110 **SAMUEL THRIFT**...*RESIDENTIAL*
110 **SCOTT A MOSSMAN**...*RESIDENTIAL*
110 **SCOTT IRVIN**...*RESIDENTIAL*
110 **TIM FOSTER**...*RESIDENTIAL*
110 **V AUBRY**...*RESIDENTIAL*
110 **WILLIAM H CRABTREE**...*RESIDENTIAL*
124 **C M MANGUM**...*RESIDENTIAL*
129 **CHRIS ATKEISSON**...*RESIDENTIAL*
130 **SHELTON KISZR**...*RESIDENTIAL*
132 **DON & NORMA BAXTER**...*RESIDENTIAL*
132 **TIM BAXTER**...*RESIDENTIAL*
135 **ROBERT ZATORSKI**...*RESIDENTIAL*
141 **P KEVIN ROSENCRANTS**...*RESIDENTIAL*
203 **MICHEALS STOKES**...*RESIDENTIAL*
209 **ELMER SCHWARTZ**...*RESIDENTIAL*
214 **MILDRED R MCMASTERS**...*RESIDENTIAL*
218 **ROBT & LYNN HEDGES**...*RESIDENTIAL*
222 **FRANCES S WISDOM**...*RESIDENTIAL*

1996 FLORIDA ST

SOURCE: POLKS

117 **NOT VERIFIED**...
120 **KNIGHT DONALD J & JOAN**...
121 **NOT VERIFIED**...
124 **BEARD SCOTT**...
125 **MARRS MATT** ...
125 **MARRS STEPHEN W & JUDITH**...
125 **MARRS ZAC**...
128 **VACANT**...
129 **KUEPKER MARC G**...
132 **BALLARD BRAD**...
132 **BALLARD RICHARD L & WILMA**...
133 **ALTENBERND HERB**...
136 **NOT VERIFIED**...
137 **YARNELL DENNIS L**...
140 **NOT VERIFIED**...
141 **ROMERO JOE & SUSAN**...
144 **WHITEHEAD WILLIAM J & GLADYS**...
145 **PATTERSON JOSEPH A & SHIRLEY**...
149 **BARIKLEY M C**...
311 **BENNETT LEONARD E & DORIS**...

1996 MICHIGAN STREET

SOURCE: POLKS

101	LOTS...
101	MULTI TENANT RESIDENTIAL...
101	WEBSTER'S MOBILE HOMES ...
124	MANGUM CONNIE M...
129	ATKELSSON CHRIS L & JULIA ...
130	KISZR CARL S ...
132	BAXTER TIM L & PENNY ...
135	ZATORSKI AOBERT A & CONNLE ...
141	-140 NOT VERIFIED (2 HSES) ...
149	WORDEN JOHN ...
202	VACANT...
203	STOKES MICHAELS ...
206	NOT VERIFIED...
209	OLSON VICKIE L. ...
210	VACANT...
214	MC MASTERS MILDRED R ...
218	HEDGES ROBERT ...
222	WISDOM FRANCES S ...
226	NOT VERIFIED...
250	DE MOSS ROLAND E ...

1991 FLORIDA ST

SOURCE: POLKS

117	VACANT...
120	KNIGHT DONALD J ...
121	ROBINSON KENT ...
124	SHEW JULIAN...
125	SNYDER STEPHEN L ...
128	MAJORS...
129	KUEPKER MARC G...
132	BALLARD RICHD L ...
133	KNIGHT WINNIE A ...
136	CUMMINGS STEVEN R ...
136	STEVE'S APPLIANCE REPAIR MAJOR APPLIANCE REPAIR...
137	YARNELL DENNIS L ...
140	SHOCKLEY KENNETH J ...
141	ROMERO SUSAN ...
144	WHITEHEAD WM J ...
145	PATTERSON JOSEPH A ...
149	BARKLEY M C ...
311	BONNETT LEONARD E ...

1991 MICHIGAN STREET

SOURCE: POLKS

101 LOTS...
101 MULTI TENANT RESIDENTIAL...
101 WEBSTER'S MOBILE HOMES...
103 CRAWFORD INEZ M ...
105 FISHER ARMAND T ...
110 MOBILE VILLAGE ...
124 MANGUM TERRY ...
129 ATKEISSON CHRIS ...
130 NO RETURN...
132 BAXTER TIM ...
141 ROSENCRANTS P KEVIN ...
202 JOHNSON KARL M...
203 NO RETURN...
206 VACANT...
209 SCHWARTZ ELMER J ...
210 NO RETURN...
214 MC MASTER MILDRED R ...
214 NO RETURN...
218 HEDGES ROBERTA L ...
222 WISDOM FRANCES S ...
226 BALDWIN ROBT M ...
1357 ZATORSKI ROBT A ...

1986 FLORIDA ST

SOURCE: POLKS

117 RAGLAND ERIC B ...
120 KNIGHT DONALD J ...
121 ROBINSON KENT ...
124 MC GUIRE LARRY R ...
125 NEWELL JUNE U ...
128 HARTMAN STAN F ...
129 KUEPKER MARC G ...
132 BALLARD RICHD L ...
133 KNIGHT W A ...
136 CUMMINGS STEVEN ...
137 YARNELL DENNIS L...
140 VANSAUN PAUL ...
141 NO RETURN...
144 WHITEHEAD WM J ...
145 PATTERSON JOE A ...
149 BARKLEY M C ...
311 NO RETURN...

1986 MICHIGAN STREET

SOURCE: POLKS

101	LOTS...
101	MULTI TENANT RESIDENTIAL...
101	WEBSTER'S MOBILE HOMES...
103	VACANT...
105	FISHER ARMAND T ...
110	LOTS...
110	MOBILE VILLAGE NO 2...
124	MANGUM TERRY ...
129	ATKEISSON CHRIS ...
130	BAXTER BOB A...
132	BAXTER TIM ...
135	GALVIN FRED...
141	LOZAR JANET ...
202	JOHNSON KARL M ...
203	HAGAN GREGORY E ...
206	HAZEL JOYCE A ...
209	SCHWARTZ ELMER J ...
210	VACANT...
214	HARTPENCE DOUG A ...
218	HEDGES ROBERTA L ...
222	NVINEZ FLEICIANO ...
226	O'BRIEN EDW J ...

1981 FLORIDA ST

SOURCE: POLKS

120	KNIGHT DONALD J...
121	SLAPAR LINDA ...
124	FIKE JOE K ...
125	NEWELL JUNE U MRS ...
128	BLACK JERRY ...
129	KUEPKER MARC ...
132	BALLARD RICHD L ...
133	KNIGHT GEO W ...
136	LAHM DAVID ...
137	LARUE JACK H ...
140	VANSAUN PAUL ...
141	ROMERO JOSE C ...
144	WHITEHEAD WM J ...
145	PATTERSON JOE A ...
149	BARKLEY MARIE C MRS...
311	BENNETT LEONARD E...

1981 MICHIGAN STREET

SOURCE: POLKS

101	LOTS...
101	WEBSTER'S MOBILE HOMES TRAILER PARK...
105	FISHER ARMOND T ...
124	MANGUM TERRY ...
129	KULP CARL ...
130	BAXTER DON G...
132	BLACK BRADLEY D ...
135	FLOWERS OTATELLO C...
138	VACANT...
140	FIGGINS EFFIE E MRS ...
141	BOTT LYNN C ...
202	JOHNSON KARL ...
203	CURL CLIFFORD ...
206	VACANT...
209	SCHWARTZ ELMER ...
210	JARRETT WM D ...
214	BARKE CHAS ...
218	HEDGES ROBERTA L ...
222	BLALOCK JACK F ...
226	O'BRIEN EDW J...

1976 FLORIDA ST

SOURCE: POLKS

120	KNIGHT DONALD J ...
121	BORNHEIM LOUIE R...
124	FIKE JACK ...
125	NEWELL JUNE U MRS...
128	CHINN ALLEN P...
129	KUEPKER MARC...
132	BALLARD RICHD L...
133	KNIGHT GEO W...
136	MUNSCH ROBT D...
137	BRUCE HOWARD L...
140	BARKLEY HOMER ...
141	ROMERO JOSE C...
144	WHITEHEAD WM J...
145	PATTERSON JOE A...
149	BARKLEY MARIE C MRS...
311	BENNETT LEONARD E ...

1976 MICHIGAN STREET

SOURCE: POLKS

101 LOTS...
101 WEBSTER'S MOBILE HOMES TRAILER PARK...
103 VACANT...
105 VACANT...
110 LOTS...
110 MULTI TENANT RESIDENTIAL...
124 MANGUM TERRY ...
129 FREITAG ROBT W REV ...
130 KLEMM DAVID M ...
132 VANN DAREL H CEMENT CONTR...
138 VACANT...
140 FIGGINS EFFIE E MRS ...
202 JOHNSON KARL ...
206 DE LAUGHDER WILMA M MRS...
209 HALL NELSON M ...
210 JARRETT WM D ...
214 DOBBINS JOHN W ...
218 BOYD DAVID L ...
222 BLALOCK JACK F ...
226 CHOY RAYMOND ...

1970 FLORIDA ST

SOURCE: POLKS

129 ALDRICH TED ...
133 KNIGHT GEO W ...
140 NYLE BILL ...
144 WHITEHEAD WM J ...
149 BARKLEY MARIE C MRS ...
324 HARDING JAMES F...

1970 MICHIGAN STREET

SOURCE: POLKS

0	MOBIL ACRES PARK & SALES...
103	PALMQUIST DAN A ...
105	ELLIS LEWIS W ...
124	TURNER CLIFFORD D...
129	FREITAG ROBT W REV ...
130	VANN DAREL H CEMENT CONTR...
138	VACANT...
140	FIGGINS EFFIE E MRS...
202	CRIBBS CARL N ...
206	DE LAUGHDER WILMA M MRS...
209	HALL NELSON M ...
210	ENGLER KENT R ...
214	MC DINA UGO R ...
218	CING-MARS ROBERT J...
222	BLAYLOCK JACK F ...
226	ROMERO PETE ...

1966 FLORIDA ST

SOURCE: POLKS

RANGE NOT LISTED

1966 MICHIGAN STREET

SOURCE: POLKS

0	SAMARITAN LODGE REST HOME...
103	PALMQUIST DAN A ...
105	MC ARDLE HAROLD...
124	VACANT...
129	FREITAG ROBTW REV...
130	ROGERS BETTY J MRS...
138	VACANT...
140	VACANT...
202	CRIBBS CARL N ...
206	DE LAUGHDER WM L ...
209	HALL NELSON M ...
210	AXLINE ROY E ...
214	VOGT MODENA D ...
218	WESTON SETH W...
222	BLALOCK JACK F ...
226	BYRNE STANLEY B ...

1963 FLORIDA ST

SOURCE: POLKS

RANGE NOT LISTED

1963 MICHIGAN STREET

SOURCE: POLKS

103 PALMQUIST DAN A ...
105 PITZ ANTHONY J...
124 ONSTEAD SARAH MRS...
129 FREITAG ROBT W REV ...
130 ROGERS CLARENCE A ...
138 VACANT...
140 FIGGINS LEONUS O ...
202 CRIBBS CARL N...
206 WINGERT CLARENCE J ...
209 HALL NELSON M ...
210 AXLINE ROY E ...
214 VOGT MODENA D ...
218 COOPER GERALD J...
222 BLALOCK JACK F ...
226 HODSON WARREN G...

1957 FLORIDA ST

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1957 MICHIGAN STREET

SOURCE: CROSS REFERENCE

103	**PALMQUIST DAN A** ...
105	**GRAY CARL JR** ...
107	**SACKS L A** ...
124	**SCHEAR RALPH** ...
130	**ROGERS C A** ...
140	**FIGGINS L O**...
245	**TUGGLE J A** ...

1950 FLORIDA ST

SOURCE: POLKS

RANGE NOT LISTED

1950 MICHIGAN STREET

SOURCE: POLKS

1	**& HUNZICKER CARL J** ...
124	**KELLER JOHN L** ...
130	**ROGERS C A** ...
140	**FIGGINS L O** ...
200	**EASLEY MRS ROBERTA** ...
245	**TUGGLE J A** ...

1944 FLORIDA ST

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1944 MICHIGAN STREET

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1941 FLORIDA ST

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1941 MICHIGAN STREET

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1935 FLORIDA ST

SOURCE: CROSS REFERENCE

RANGE NOT LISTED

1935 MICHIGAN STREET

SOURCE: CROSS REFERENCE

130 **OLMSTED COLLIN** ...
245 **TUGGLE J A** ...

1929-30 FLORIDA ST

SOURCE: CALNONS

RANGE NOT LISTED

1929-30 MICHIGAN STREET

SOURCE: CALNONS

124 **KUHN VALENTINE**...
130 **WIGGINS OTIS**...
140 **VACANT**...
200 **WATSON CHAS**...
245 **TUGGLE J A** ...

1925 FLORIDA ST

SOURCE: POLKS

RANGE NOT LISTED

124 **JAS F WOOD**...
130 **PHILIP OLMSTEAD**...
140 **VALENTINE KUHN**...
200 **HERMAN J HAFFERKAMP**...
245 **JOS P JENNINGS** ...

E. SUPPORTING DOCUMENTATION

PSR
PHYSICAL SETTING REPORT

Property Information

Order Number:		22041201154p
Date Completed:		April 13, 2022
Project Number:		13008
Project Property:		Two Parcels 105 Michigan St Lawrence KS 66044
Coordinates:		
	Latitude:	38.98186225
	Longitude:	-95.25156585
	UTM Northing:	4317175.13588 Meters
	UTM Easting:	304972.61668 Meters
	UTM Zone:	UTM Zone 15S
	Elevation:	853.28 ft
	Slope Direction:	E

The ERIS ***Physical Setting Report - PSR*** provides comprehensive information about the physical setting around a site and includes a complete overview of topography and surface topology, in addition to hydrologic, geologic and soil characteristics. The location and detailed attributes of oil and gas wells, water wells, public water systems and radon are also included for review.

The compilation of both physical characteristics of a site and additional attribute data is useful in assessing the impact of migration of contaminants and subsequent impact on soils and groundwater.

Disclaimer

This Report does not provide a full environmental evaluation for the site or adjacent properties. Please see the terms and disclaimer at the end of the Report for greater detail.

Topographic Information

Current USGS Topo (2015)

0 0.2 0.4 0.8 Miles

N

Quadrangle(s): Lawrence East,KS; Lawrence West,KS

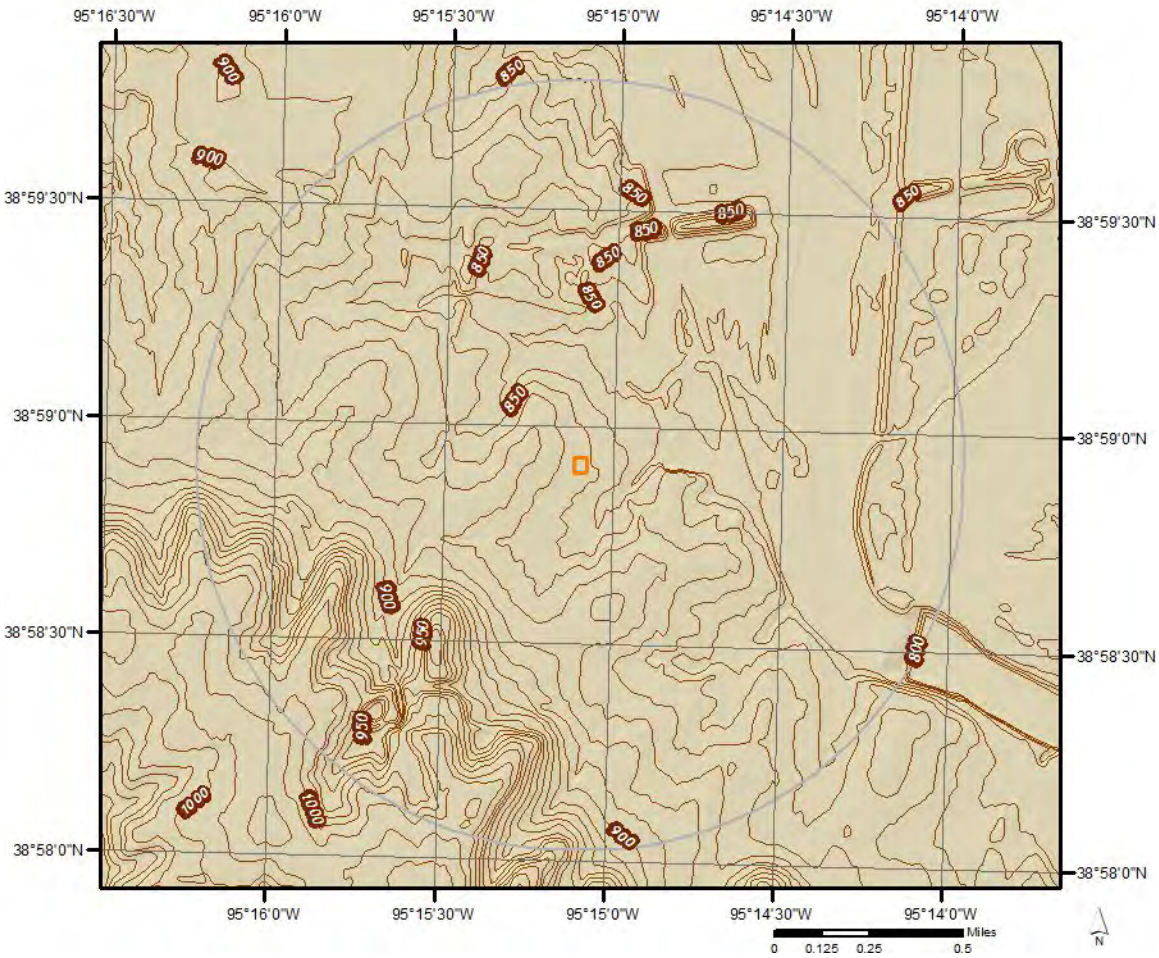
Source: USGS 7.5 Minute Topographic Map

Topographic Information

The previous topographic map(s) are created by seamlessly merging and cutting current USGS topographic data. Below are shaded relief map(s), derived from USGS elevation data to show surrounding topography in further detail.

Topographic information at project property:

Elevation:	853.28 ft
Slope Direction:	E



Hydrologic Information

Wetland

0 0.075 0.15 0.3 Miles

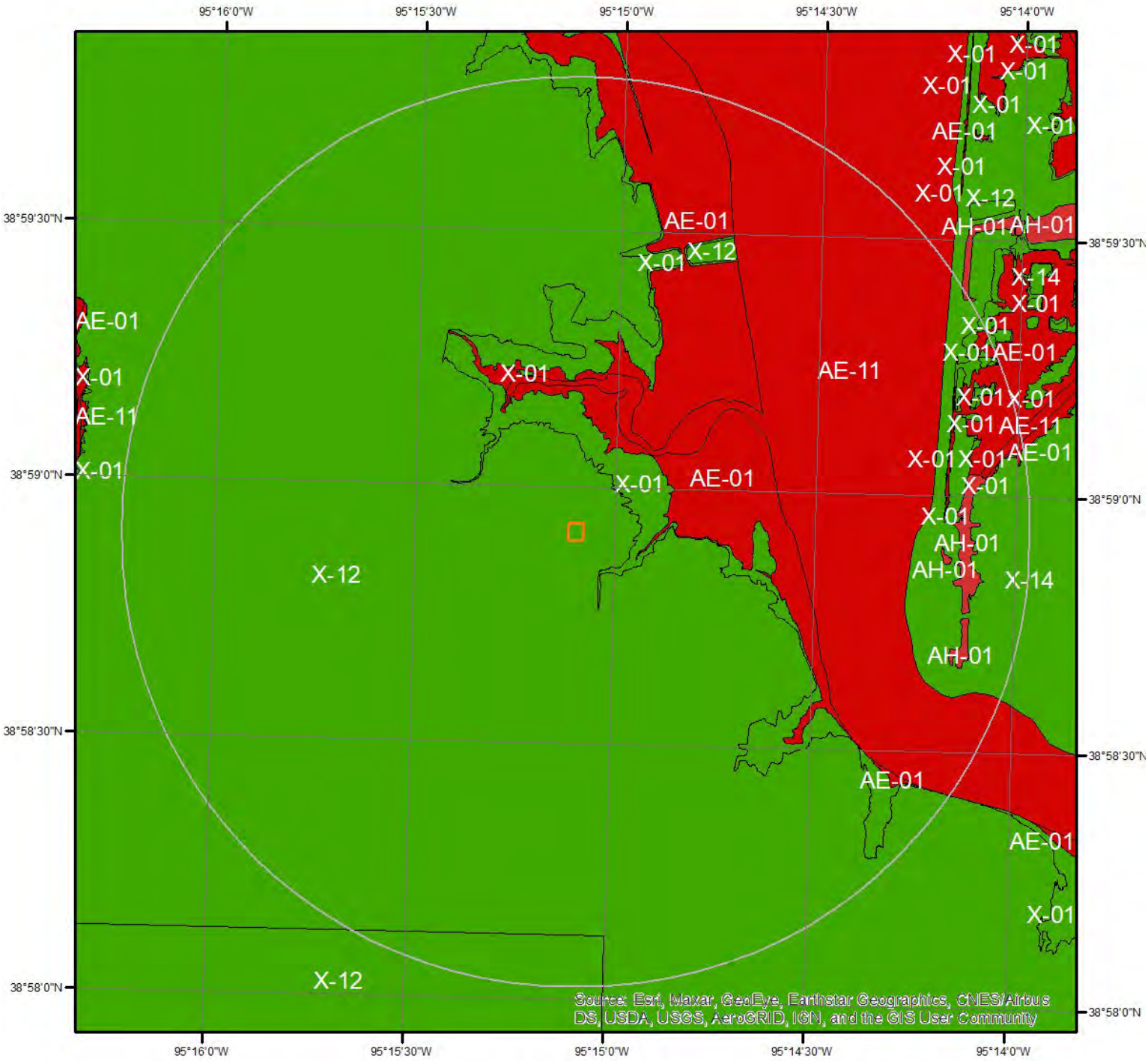
N

This map shows wetland existence using data from US Fish & Wildlife.
Data coverage is shown to the right. Gray indicates no data available in the area.

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

ERIS

Hydrologic Information



Flood Hazard Zones

This map shows FEMA flood hazard zones. FIRM panels are shown to the right, and blank indicates no data is available.

Miles
0 0.2 0.4

N

A	AO	X
A99	V	OPEN WATER
AE	VE	NOT POPULATED
AH	D	AREA NOT INCLUDED

ERIS

Hydrologic Information

The Wetland Type map shows wetland existence overlaid on an aerial imagery. The Flood Hazard Zones map shows FEMA flood hazard zones overlaid on an aerial imagery. Relevant FIRM panels and detailed zone information is provided below.
For detailed Zone descriptions please click the link: https://floodadvocate.com/fema-zone-definitions

Available FIRM Panels in area:	20045C0159D(effective:2010-08-05) 20045C0157E(effective:2015-09-02) 20045C0176E(effective:2015-09-02) 20045C0178E(effective:2015-09-02) 20103C0375G(effective:2015-07-16)

Flood Zone AE-01

Zone:	AE
Zone subtype:	

Flood Zone AE-11

Zone:	AE
Zone subtype:	FLOODWAY

Flood Zone AH-01

Zone:	AH
Zone subtype:	

Flood Zone X-01

Zone:	X
Zone subtype:	0.2 PCT ANNUAL CHANCE FLOOD HAZARD

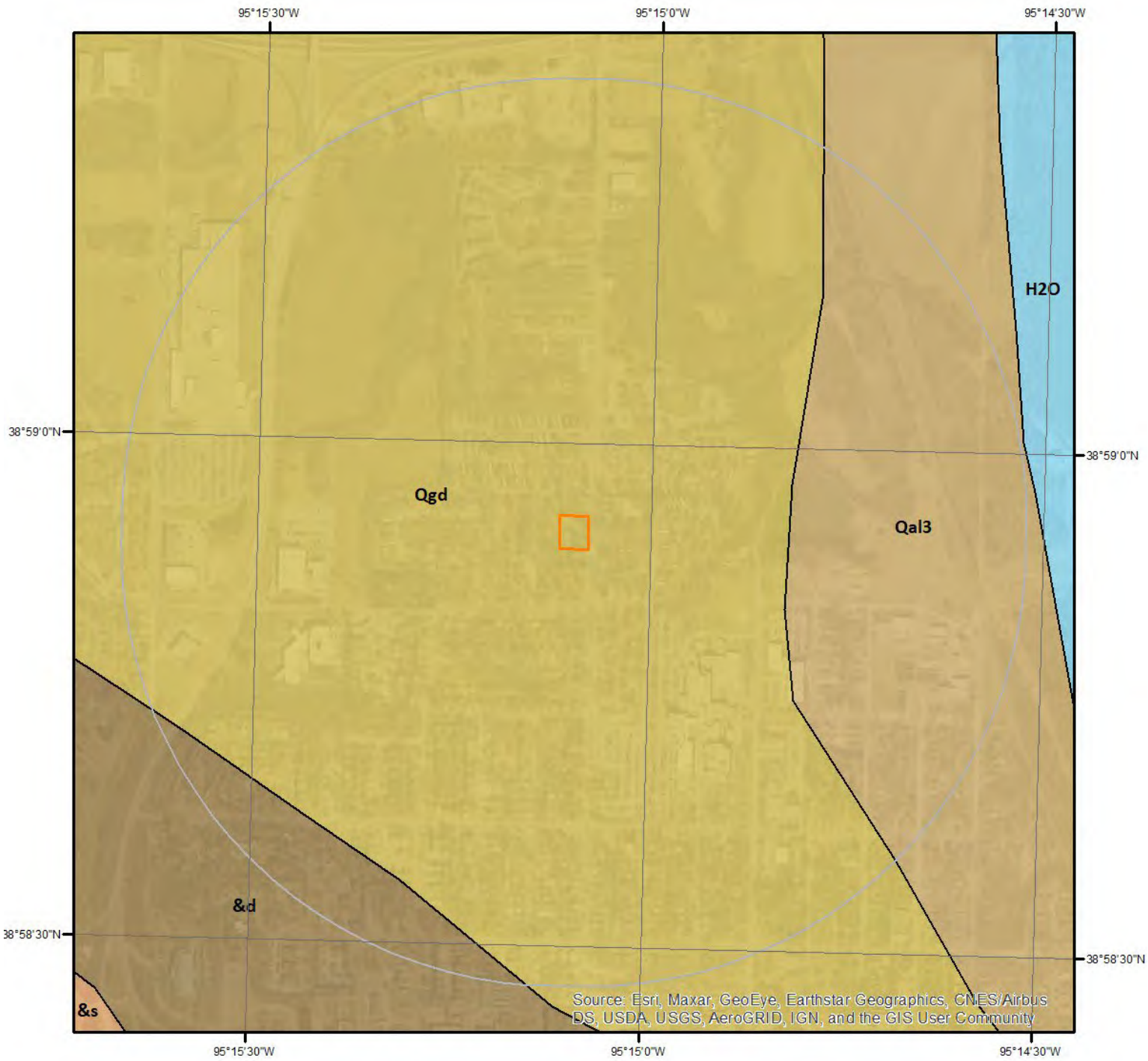
Flood Zone X-12

Zone:	X
Zone subtype:	AREA OF MINIMAL FLOOD HAZARD

Flood Zone X-14

Zone:	X
Zone subtype:	AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

Geologic Information



Geologic Units

This maps shows geologic units in the area. Please refer to the report for detailed descriptions.

Geologic Information

The previous page shows USGS geology information. Detailed information about each unit is provided below.

Geologic Unit Qal3

Unit Name:	Alluvium
Unit Age:	Phanerozoic | Cenozoic | Quaternary | Pleistocene Holocene
Primary Rock Type:	gravel
Secondary Rock Type:	sand
Unit Description:	unconsolidated sand, silt, clay, and gravel

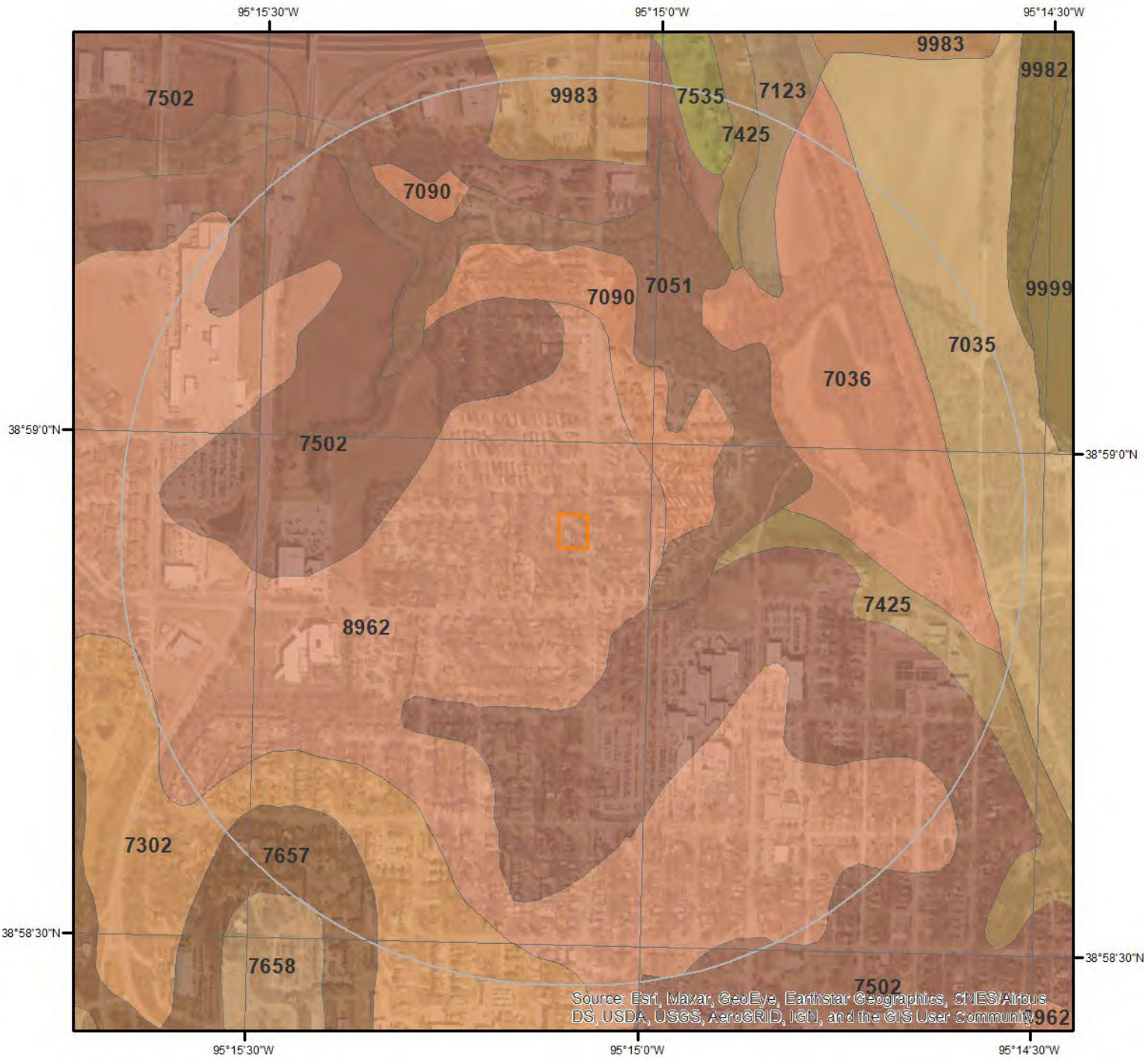
Geologic Unit &d

Unit Name:	Douglas Group
Unit Age:	Phanerozoic | Paleozoic | Carboniferous Pennsylvanian-Late [Virgilian]
Primary Rock Type:	shale
Secondary Rock Type:	sandstone
Unit Description:	Lawrence FM (base LA)- mostly gray shale and sandstone with minor red shale, coal, gray limestone and conglomerate, thickness ranges from 140ft to 250 ft. Stranger FM- five members containing sandstone, shale, and minor limestone, coal and conglomerate

Geologic Unit Qgd

Unit Name:	Drift
Unit Age:	Phanerozoic | Cenozoic | Quaternary | Pleistocene
Primary Rock Type:	sand
Secondary Rock Type:	silt
Unit Description:	sand, silt, clay, and some gravel

Soil Information



SSURGO Soils

0 0.175 0.35 Miles

N

This maps shows SSURGO soil units around the target property. Please refer to the report for detailed soil descriptions.

ERIS

Soil Information

The previous page shows a soil map using SSURGO data from USDA Natural Resources Conservation Service. Detailed information about each unit is provided below.

Map Unit 7035 (2.11%)

Map Unit Name:	Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.
Major components are printed below	
Eudora(55%)	
horizon Ap(0cm to 18cm)	Fine sandy loam
horizon A(18cm to 36cm)	Silt loam
horizon C1(36cm to 102cm)	Silt loam
horizon C2(102cm to 122cm)	Silt loam
horizon C3(122cm to 203cm)	Very fine sandy loam
Bismarckgrove(25%)	
horizon Ap(0cm to 15cm)	Fine sandy loam
horizon A1(15cm to 36cm)	Silty clay loam
horizon A2(36cm to 48cm)	Silty clay loam
horizon Bw(48cm to 74cm)	Silt loam
horizon C1(74cm to 112cm)	Silt loam
horizon 2C2(112cm to 203cm)	Stratified loamy fine sand to fine sandy loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7035 - Eudora-Bismarckgrove fine sandy loams, overwash, occasionally flooded

Component: Eudora (55%)
The Eudora, occasionally flooded component makes up 55 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on river valleys. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R106XY013KS Loamy Lowland (pe 30-37) ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bismarckgrove (25%)
The Bismarckgrove, occasionally flooded component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on terraces on river valleys. The parent material consists of silty alluvium over sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R106XY013KS Loamy Lowland (pe 30-37) ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bourbonais (10%)
Generated brief soil descriptions are created for major soil components. The Bourbonais, occasionally flooded soil is a minor component.

Component: Kimo (5%)

Soil Information

Generated brief soil descriptions are created for major soil components. The Kimo, occasionally flooded soil is a minor component.

Component: Stonehouse (4%)
Generated brief soil descriptions are created for major soil components. The Stonehouse, occasionally flooded soil is a minor component.

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls, occasionally ponded soil is a minor component.

Map Unit 7036 (1.39%)

Map Unit Name:	Eudora-Bismarckgrove silt loams, occasionally flooded
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Eudora(50%)	
horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 36cm)	Silt loam
horizon C1(36cm to 102cm)	Silt loam
horizon C2(102cm to 122cm)	Silt loam
horizon C3(122cm to 203cm)	Very fine sandy loam
Bismarckgrove(25%)	
horizon Ap(0cm to 15cm)	Silt loam
horizon A1(15cm to 36cm)	Silty clay loam
horizon A2(36cm to 48cm)	Silty clay loam
horizon Bw(48cm to 74cm)	Silt loam
horizon C1(74cm to 112cm)	Silt loam
horizon 2C2(112cm to 203cm)	Stratified loamy fine sand to fine sandy loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7036 - Eudora-Bismarckgrove silt loams, occasionally flooded

Component: Eudora (50%)
The Eudora, occasionally flooded component makes up 50 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on river valleys. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R106XY013KS Loamy Lowland (pe 30-37) ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bismarckgrove (25%)
The Bismarckgrove, occasionally flooded component makes up 25 percent of the map unit. Slopes are 0 to 1 percent. This component is on terraces on river valleys. The parent material consists of silty alluvium over sandy alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is occasionally flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R106XY013KS Loamy Lowland (pe 30-37) ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 1 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bourbonais (15%)

Soil Information

Generated brief soil descriptions are created for major soil components. The Bourbonais, occasionally flooded soil is a minor component.

Component: Kimo (5%)
Generated brief soil descriptions are created for major soil components. The Kimo, occasionally flooded soil is a minor component.

Component: Stonehouse (4%)
Generated brief soil descriptions are created for major soil components. The Stonehouse, occasionally flooded soil is a minor component.

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls, occasionally ponded soil is a minor component.

Map Unit 7051 (1.34%)

Map Unit Name:	Kennebec silt loam, frequently flooded
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	107cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Kennebec(88%)

horizon A1(0cm to 25cm)	Silt loam
horizon A2(25cm to 56cm)	Silty clay loam
horizon AC(56cm to 97cm)	Silty clay loam
horizon C(97cm to 152cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7051 - Kennebec silt loam, frequently flooded

Component: Kennebec (88%)
The Kennebec component makes up 88 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on river valleys. The parent material consists of silty alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is moderate. This soil is frequently flooded. It is not ponded. A seasonal zone of water saturation is at 42 inches during February, March, April. Organic matter content in the surface horizon is about 4 percent. This component is in the R106XY013KS Loamy Lowland (pe 30-37) ecological site. Nonirrigated land capability classification is 5w. This soil does not meet hydric criteria.

Component: Vinland (3%)
Generated brief soil descriptions are created for major soil components. The Vinland soil is a minor component.

Component: Sogn (3%)
Generated brief soil descriptions are created for major soil components. The Sogn soil is a minor component.

Component: Martin (2%)
Generated brief soil descriptions are created for major soil components. The Martin soil is a minor component.

Component: Wabash (2%)
Generated brief soil descriptions are created for major soil components. The Wabash soil is a minor component.

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls, ponded soil is a minor component.

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls soil is a minor component.

Soil Information

Map Unit 7090 (0.56%)

Map Unit Name:	Wabash silty clay loam, occasionally flooded
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	15cm
Drainage Class - Dominant:	Poorly drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Wabash(91%)

horizon Ap(0cm to 13cm)	Silty clay loam
horizon A(13cm to 41cm)	Silty clay loam
horizon Bg(41cm to 132cm)	Silty clay
horizon Cg(132cm to 178cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7090 - Wabash silty clay loam, occasionally flooded

Component: Wabash (90%)
The Wabash, occasionally flooded component makes up 90 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood-plain steps on valleys. The parent material consists of silty and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is very high. This soil is occasionally flooded. It is occasionally ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R106XY065NE Wet Subirrigated ecological site. Nonirrigated land capability classification is 3w. This soil meets hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Kennebec (5%)
Generated brief soil descriptions are created for major soil components. The Kennebec, occasionally flooded soil is a minor component.

Component: Reading (5%)
Generated brief soil descriptions are created for major soil components. The Reading, rarely flooded soil is a minor component.

Map Unit 7123 (1.4%)

Map Unit Name:	Eudora silt loam, rarely flooded
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	B - Soils in this group have moderately low runoff potential when thoroughly wet. Water transmission through the soil is unimpeded.

Major components are printed below

Eudora(85%)

horizon Ap(0cm to 18cm)	Silt loam
horizon A(18cm to 36cm)	Silt loam
horizon C1(36cm to 102cm)	Silt loam
horizon C2(102cm to 122cm)	Silt loam
horizon C3(122cm to 203cm)	Very fine sandy loam

Component Description:

Minor map unit components are excluded from this report.

Soil Information

Map Unit: 7123 - Eudora silt loam, rarely flooded

Component: Eudora (85%)
The Eudora, rarely flooded component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on flood plains on river valleys. The parent material consists of alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is rarely flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R076XY113KS Loamy Lowland ecological site. Nonirrigated land capability classification is 2w. Irrigated land capability classification is 3w. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 2 percent. There are no saline horizons within 30 inches of the soil surface.

Component: Bismarckgrove (10%)
Generated brief soil descriptions are created for major soil components. The Bismarckgrove, rarely flooded soil is a minor component.

Component: Bourbonais (4%)
Generated brief soil descriptions are created for major soil components. The Bourbonais, rarely flooded soil is a minor component.

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls, occasionally ponded soil is a minor component.

Map Unit 7302 (27.19%)

Map Unit Name:	Martin silty clay loam, 3 to 7 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	61cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Martin(85%)

horizon Ap(0cm to 23cm)	Silty clay loam
horizon AB(23cm to 36cm)	Silty clay loam
horizon Bt(36cm to 94cm)	Silty clay
horizon BC(94cm to 122cm)	Silty clay
horizon C(122cm to 152cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7302 - Martin silty clay loam, 3 to 7 percent slopes

Component: Martin (85%)
The Martin component makes up 85 percent of the map unit. Slopes are 3 to 7 percent. This component is on hillslopes on uplands. The parent material consists of colluvium derived from limestone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during February, March, April, May. Organic matter content in the surface horizon is about 4 percent. This component is in the R106XY015KS Loamy Upland (pe 30-37) ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Elmont (5%)
Generated brief soil descriptions are created for major soil components. The Elmont soil is a minor component.

Component: Vinland (5%)
Generated brief soil descriptions are created for major soil components. The Vinland soil is a minor component.

Component: Pawnee (5%)
Generated brief soil descriptions are created for major soil components. The Pawnee soil is a minor component.

Soil Information

Map Unit 7425 (1.13%)

Map Unit Name:	Morrill clay loam, 7 to 12 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Morrill(85%)

horizon A(0cm to 20cm)	Clay loam
horizon BA(20cm to 33cm)	Clay loam
horizon Bt(33cm to 142cm)	Clay loam
horizon C(142cm to 168cm)	Clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7425 - Morrill clay loam, 7 to 12 percent slopes

Component: Morrill (85%)
The Morrill component makes up 85 percent of the map unit. Slopes are 7 to 12 percent. This component is on hillslopes on uplands. The parent material consists of till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. This component is in the R106XY075NE Loamy Upland ecological site. Nonirrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Basehor (5%)
Generated brief soil descriptions are created for major soil components. The Basehor soil is a minor component.

Component: Martin (5%)
Generated brief soil descriptions are created for major soil components. The Martin soil is a minor component.

Component: Pawnee (4%)
Generated brief soil descriptions are created for major soil components. The Pawnee soil is a minor component.

Component: Typic epiaquoll (1%)
Generated brief soil descriptions are created for major soil components. The Typic epiaquoll soil is a minor component.

Map Unit 7502 (12.42%)

Map Unit Name:	Pawnee clay loam, 3 to 6 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	36cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C/D - These soils have moderately high runoff potential when drained and high runoff potential when undrained.

Major components are printed below

Pawnee(85%)

horizon Ap(0cm to 18cm)	Clay loam
horizon AB(18cm to 30cm)	Clay loam
horizon Bt(30cm to 86cm)	Clay
horizon BC(86cm to 137cm)	Clay loam
horizon C(137cm to 183cm)	Sandy clay loam

Soil Information

Map Unit 7535 (0.15%)

Map Unit Name:	Sharpsburg silt loam, 4 to 8 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	120cm
Drainage Class - Dominant:	Moderately well drained
Hydrologic Group - Dominant:	C - Soils in this group have moderately high runoff potential when thoroughly wet. Water transmission through the soil is somewhat restricted.

Major components are printed below

Sharpsburg(85%)

horizon Ap(0cm to 15cm)	Silt loam
horizon A(15cm to 28cm)	Silty clay loam
horizon Bt1(28cm to 45cm)	Silty clay loam
horizon Bt2(45cm to 117cm)	Silty clay loam
horizon BC(117cm to 147cm)	Silty clay loam
horizon C(147cm to 200cm)	Silty clay loam

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7535 - Sharpsburg silt loam, 4 to 8 percent slopes

Component: Sharpsburg (85%)
The Sharpsburg component makes up 85 percent of the map unit. Slopes are 4 to 8 percent. This component is on hillslopes on uplands. The parent material consists of loess. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 47 inches during February, March, April, May. Organic matter content in the surface horizon is about 3 percent. This component is in the R106XY015KS Loamy Upland (pe 30-37) ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 4e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Martin (5%)
Generated brief soil descriptions are created for major soil components. The Martin soil is a minor component.

Component: Pawnee (5%)
Generated brief soil descriptions are created for major soil components. The Pawnee soil is a minor component.

Component: Morrill (5%)
Generated brief soil descriptions are created for major soil components. The Morrill soil is a minor component.

Map Unit 7657 (19.47%)

Map Unit Name:	Vinland-Martin complex, 7 to 15 percent slopes
Bedrock Depth - Min:	43cm
Watertable Depth - Annual Min:	61cm
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Vinland(40%)

horizon A(0cm to 18cm)	Silty clay loam
horizon Bw(18cm to 25cm)	Silty clay loam
horizon C(25cm to 43cm)	Silty clay loam
horizon Cr(43cm to 53cm)	Bedrock

Martin(25%)

horizon Ap(0cm to 23cm)	Silty clay loam
horizon AB(23cm to 36cm)	Silty clay loam
horizon Bt(36cm to 94cm)	Silty clay
horizon BC(94cm to 122cm)	Silty clay
horizon C(122cm to 152cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7657 - Vinland-Martin complex, 7 to 15 percent slopes

Component: Vinland (45%)
The Vinland component makes up 45 percent of the map unit. Slopes are 7 to 15 percent. This component is on hillslopes on uplands. The parent material consists of sandy and silty residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 15 to 18 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R106XY031NE Shallow Savannah ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Martin (40%)
The Martin component makes up 40 percent of the map unit. Slopes are 7 to 11 percent. This component is on hillslopes on uplands. The parent material consists of colluvium derived from limestone and shale. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 14 inches during February, March, April, May. Organic matter content in the surface horizon is about 4 percent. This component is in the R106XY015KS Loamy Upland (pe 30-37) ecological site. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Sibleyville (10%)
Generated brief soil descriptions are created for major soil components. The Sibleyville soil is a minor component.

Component: Sogn (3%)
Generated brief soil descriptions are created for major soil components. The Sogn soil is a minor component.

Component: Vinland (2%)
Generated brief soil descriptions are created for major soil components. The Vinland soil is a minor component.

Map Unit 7658 (16.17%)

Map Unit Name:	Vinland-Rock outcrop complex, 15 to 45 percent slopes
Bedrock Depth - Min:	43cm
Watertable Depth - Annual Min:	
Drainage Class - Dominant:	Somewhat excessively drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Vinland(51%)

horizon A(0cm to 20cm)	Silty clay loam
horizon Bw(20cm to 30cm)	Silty clay loam
horizon C(30cm to 43cm)	Silty clay loam
horizon Cr(43cm to 51cm)	Bedrock

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 7658 - Vinland-Rock outcrop complex, 15 to 45 percent slopes

Component: Vinland (65%)

Soil Information

The Vinland component makes up 65 percent of the map unit. Slopes are 15 to 45 percent. This component is on hillslopes on uplands. The parent material consists of sandy and silty residuum weathered from shale. Depth to a root restrictive layer, bedrock, paralithic, is 15 to 19 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is moderate. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. This component is in the R106XY031NE Shallow Savannah ecological site. Nonirrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Rock outcrop (20%)
Generated brief soil descriptions are created for major soil components. The Rock outcrop is a miscellaneous area.

Component: Oska (5%)
Generated brief soil descriptions are created for major soil components. The Oska soil is a minor component.

Component: Wamego (5%)
Generated brief soil descriptions are created for major soil components. The Wamego soil is a minor component.

Component: Bendena (5%)
Generated brief soil descriptions are created for major soil components. The Bendena soil is a minor component.

Map Unit 8962 (15.66%)

Map Unit Name:	Woodson silt loam, 1 to 3 percent slopes
Bedrock Depth - Min:	
Watertable Depth - Annual Min:	38cm
Drainage Class - Dominant:	Somewhat poorly drained
Hydrologic Group - Dominant:	D - Soils in this group have high runoff potential when thoroughly wet. Water movement through the soil is restricted or very restricted.

Major components are printed below

Woodson(90%)

horizon Ap(0cm to 20cm)	Silt loam
horizon Bt1(20cm to 45cm)	Silty clay
horizon Bt2(45cm to 79cm)	Silty clay
horizon BC(79cm to 109cm)	Silty clay
horizon C(109cm to 200cm)	Silty clay

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 8962 - Woodson silt loam, 1 to 3 percent slopes

Component: Woodson (90%)
The Woodson component makes up 90 percent of the map unit. Slopes are 1 to 3 percent. This component is on divides on plains. The parent material consists of silty loess and/or silty and clayey alluvium. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is high. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 15 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 3 percent. This component is in the R112XY102KS Clayey Upland ecological site. Nonirrigated land capability classification is 2s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Kenoma (5%)
Generated brief soil descriptions are created for major soil components. The Kenoma soil is a minor component.

Component: Summit (2%)
Generated brief soil descriptions are created for major soil components. The Summit soil is a minor component.

Component: Eram (2%)
Generated brief soil descriptions are created for major soil components. The Eram soil is a minor component.

Soil Information

Component: Aquolls (1%)
Generated brief soil descriptions are created for major soil components. The Aquolls soil is a minor component.

Map Unit 9983 (1.0%)

Map Unit Name: Gravel pits and quarries

No more attributes available for this map unit

Component Description:

Minor map unit components are excluded from this report.

Map Unit: 9983 - Pits, gravel and quarry

Component: Pits (100%)
Generated brief soil descriptions are created for major soil components. The Pits is a miscellaneous area.

Wells and Additional Sources

Wells & Additional Sources

N

0 0.15 0.3 0.6 Miles

- Sites with Higher Elevation
- Sites with Same Elevation
- Sites with Lower Elevation
- Sites with Unknown Elevation
- OGW Sites with Higher Elevation
- OGW Sites with Same Elevation
- OGW Sites with Lower Elevation
- OGW Sites with Unknown Elevation

ERIS

Wells and Additional Sources Summary

Federal Sources

Public Water Systems Violations and Enforcement Data

Map Key	PWS ID	Distance (ft)	Direction
11	KS2004503	2268.11	ESE

Safe Drinking Water Information System (SDWIS)

Map Key	ID	Distance (ft)	Direction
	No records found		

USGS National Water Information System

Map Key	Monitoring Loc Identifier	Distance (ft)	Direction
2	USGS-385907095150201	1150.61	NNE
5	USGS-385838095150701	1590.69	S
7	USGS-385854095143702	2103.58	E
7	USGS-385854095143701	2103.58	E
9	USGS-385901095143701	2171.08	ENE
10	USGS-385848095143701	2181.15	ESE
12	USGS-385907095143701	2394.39	ENE
12	USGS-385907095143702	2394.39	ENE
13	USGS-385841095143701	2464.92	ESE
16	USGS-385855095142901	2735.53	E
16	USGS-385855095142902	2735.53	E
17	KS003-9200458100004	2760.95	ENE
19	USGS-385848095142901	2795.47	ESE
19	USGS-385848095142902	2795.47	ESE
20	USGS-385920095144601	2825.83	NNE
21	USGS-385924095145801	2897.75	NNE
25	USGS-385927095150301	3167.25	N
27	USGS-385845095142503	3175.66	ESE
27	USGS-385845095142501	3175.66	ESE
27	USGS-385845095142502	3175.66	ESE
27	USGS-385845095142504	3175.66	ESE
27	USGS-385845095142505	3175.66	ESE
27	USGS-385845095142506	3175.66	ESE
27	USGS-385845095142507	3175.66	ESE
27	USGS-385845095142508	3175.66	ESE
28	USGS-385853095142300	3282.33	E
29	KS003-9200038313	3311.06	E
29	KS003-920045038313	3311.06	E
31	USGS-385927095151901	3333.43	NNW
33	USGS-385911095142501	3421.63	ENE
35	USGS-385822095144501	3528.79	SSE
36	USGS-385911095154901	3743.91	WNW
37	USGS-385933095150301	3774.24	N
38	USGS-385933095144601	4022.80	NNE
40	USGS-385933095143701	4320.65	NNE
40	USGS-385933095143702	4320.65	NNE
42	USGS-385858095140801	4400.18	E
42	USGS-385858095140802	4400.18	E
42	USGS-385858095140803	4400.18	E
44	USGS-385845095140802	4481.11	ESE
44	USGS-385845095140801	4481.11	ESE

45	USGS-385940095145401	4546.34	NNE
47	USGS-385911095140802	4658.64	ENE
47	USGS-385911095140801	4658.64	ENE
48	USGS-385940095144601	4693.63	NNE
49	USGS-385822095142001	4707.74	SE
52	USGS-385934095142901	4743.31	NE
58	USGS-385933095154501	4879.55	NW
59	USGS-385943095145001	4905.41	NNE
61	USGS-385940095143701	4951.28	NNE
63	USGS-385911095160601	4997.18	WNW
69	USGS-385901095161002	5095.57	W
69	USGS-385901095161001	5095.57	W
80	USGS-385924095140801	5244.45	ENE
82	USGS-385946095144601	5276.42	NNE

State Sources

Oil and Gas Wells

Map Key	ID	Distance (ft)	Direction
	No records found		

Water Well Completion Records Database

Map Key	Well ID	Distance (ft)	Direction
1	547962	1113.31	WSW
3	547963	1152.83	WSW
4	336431	1522.40	WSW
4	336432	1522.40	WSW
4	335187	1522.40	WSW
4	335188	1522.40	WSW
4	336443	1522.40	WSW
4	335189	1522.40	WSW
4	336442	1522.40	WSW
4	335190	1522.40	WSW
6	12123	2066.33	ENE
8	452485	2131.44	WSW
14	310726	2470.38	E
14	389442	2470.38	E
14	389443	2470.38	E
14	382135	2470.38	E
14	382137	2470.38	E
14	389445	2470.38	E
14	382134	2470.38	E
14	389444	2470.38	E
14	382136	2470.38	E
15	434672	2714.04	S
15	341776	2714.04	S
15	341774	2714.04	S
15	12117	2714.04	S
15	434673	2714.04	S
15	412877	2714.04	S
15	12120	2714.04	S
15	341773	2714.04	S
15	12124	2714.04	S
15	412874	2714.04	S
15	434692	2714.04	S
15	434670	2714.04	S
15	434671	2714.04	S
15	12119	2714.04	S

15	12118	2714.04	S
15	412876	2714.04	S
18	347620	2762.53	SSW
18	434510	2762.53	SSW
22	425443	2900.62	SSE
22	434669	2900.62	SSE
23	434697	3025.45	S
23	12121	3025.45	S
23	12122	3025.45	S
24	310727	3091.24	E
26	312101	3171.12	SE
26	312100	3171.12	SE
26	312103	3171.12	SE
26	312102	3171.12	SE
26	312104	3171.12	SE
30	347627	3333.05	S
30	434518	3333.05	S
30	347622	3333.05	S
30	347236	3333.05	S
30	347626	3333.05	S
30	434512	3333.05	S
30	347625	3333.05	S
30	347628	3333.05	S
30	347629	3333.05	S
30	347623	3333.05	S
30	434514	3333.05	S
30	347237	3333.05	S
30	347624	3333.05	S
30	347233	3333.05	S
30	409006	3333.05	S
30	347234	3333.05	S
30	434517	3333.05	S
30	434519	3333.05	S
30	434516	3333.05	S
30	347621	3333.05	S
30	409005	3333.05	S
32	421785	3363.69	S
32	434695	3363.69	S
32	425445	3363.69	S
32	434696	3363.69	S
34	434693	3515.48	SSE
34	425444	3515.48	SSE
39	520726	4160.06	SW
41	501932	4337.14	W
43	12116	4426.06	NE
46	347576	4593.80	SSE
50	428051	4708.03	S
51	411616	4720.69	ENE
51	392560	4720.69	ENE
53	392559	4761.28	ENE
53	411615	4761.28	ENE
54	392577	4794.28	E
54	411776	4794.28	E
55	392557	4839.74	ENE
55	411613	4839.74	ENE
56	347584	4851.89	SSW
56	115071	4851.89	SSW
57	392558	4862.77	ENE
57	411614	4862.77	ENE
60	392576	4905.77	ENE
60	411622	4905.77	ENE
62	392578	4960.75	ENE
64	402302	5040.64	ENE
65	402299	5049.91	ENE
66	402295	5061.21	ENE
67	347589	5078.68	SSW

Wells and Additional Sources Summary

67	347591	5078.68	SSW
67	347587	5078.68	SSW
67	347586	5078.68	SSW
67	347585	5078.68	SSW
68	424626	5083.97	ENE
68	424618	5083.97	ENE
68	417406	5083.97	ENE
68	424624	5083.97	ENE
68	424619	5083.97	ENE
68	417404	5083.97	ENE
68	424616	5083.97	ENE
68	424622	5083.97	ENE
68	417405	5083.97	ENE
68	424621	5083.97	ENE
68	424620	5083.97	ENE
68	424617	5083.97	ENE
68	424625	5083.97	ENE
68	417403	5083.97	ENE
68	424623	5083.97	ENE
68	424615	5083.97	ENE
70	487378	5107.46	SSW
71	424519	5114.45	ENE
71	424538	5114.45	ENE
71	411777	5114.45	ENE
71	411775	5114.45	ENE
71	424526	5114.45	ENE
71	424521	5114.45	ENE
71	424523	5114.45	ENE
71	411774	5114.45	ENE
71	424522	5114.45	ENE
71	424520	5114.45	ENE
71	411773	5114.45	ENE
71	411621	5114.45	ENE
71	411772	5114.45	ENE
71	424524	5114.45	ENE
71	424528	5114.45	ENE
71	424518	5114.45	ENE
72	455106	5114.60	ESE
72	451272	5114.60	ESE
73	402304	5117.32	E
74	402303	5118.53	ENE
75	402300	5164.50	ENE
76	12244	5197.16	ESE
77	402305	5216.83	ENE
78	347694	5243.10	ESE
79	408919	5243.25	ENE
79	408917	5243.25	ENE
81	489639	5268.09	SSW

Public Water Systems Violations and Enforcement Data

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
11	ESE	0.43	2,268.11	856.92	PWSV

Address Line 2:	PO BOX 708
State Code:	KS
Zip Code:	66044
City Name:	LAWRENCE
Address Line 1:	720 W 3RD ST
PWS ID:	KS2004503
PWS Type Code:	CWS
PWS Type Description:	Community Water System
Primary Source Code:	SW
Primary Source Desc:	Surface Water
PWS Activity Code:	A
PWS Activity Description:	Active
PWS Deactivation Date:	
Phone Number:	785-423-0699

--Details--

Population Served Count:	92783
City Served:	LAWRENCE
County Served:	Douglas
State Served:	KS
Zip Code Served:	

USGS National Water Information System

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
2	NNE	0.22	1,150.61	830.86	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98527949000000
Source Map Scale:	24000	Longitude:	-95.2508059000000
Monitoring Loc Name:	12S 19E 24DCC 01		
Monitoring Loc Identifier:	USGS-385907095150201		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	830.00
Vertical Measure Unit:	feet
Vertical Accuracy:	5.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Interpolated from topographic map.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
5	S	0.30	1,590.69	864.45	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97722410000000
Source Map Scale:		Longitude:	-95.2521948000000
Monitoring Loc Name:	12S 19E 25CAAD01		
Monitoring Loc Identifier:	USGS-385838095150701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	1		
Horizontal Accuracy Unit:	minutes		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:			
Vertical Measure Unit:			
Vertical Accuracy:			
Vertical Accuracy Unit:			

Vertical Collection Mthd:
Vert Coord Refer System:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	E	0.40	2,103.58	829.65	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98166850000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 25AAD 02		
Monitoring Loc Identifier:	USGS-385854095143702		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	830.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
7	E	0.40	2,103.58	829.65	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.98166850000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 25AAD 01		
Monitoring Loc Identifier:	USGS-385854095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	822.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
9	ENE	0.41	2,171.08	817.51	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	48.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98361290000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 25AAA 01		
Monitoring Loc Identifier:	USGS-385901095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	822.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
10	ESE	0.41	2,181.15	847.13	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98000189000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 25ADA 01		
Monitoring Loc Identifier:	USGS-385848095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	820.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	ENE	0.45	2,394.39	820.93	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98527954000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 24DDD 01		
Monitoring Loc Identifier:	USGS-385907095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	823.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
12	ENE	0.45	2,394.39	820.93	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98527954000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 24DDD 02		
Monitoring Loc Identifier:	USGS-385907095143702		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	823.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
13	ESE	0.47	2,464.92	862.82	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97805749000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 25ADD 01		
Monitoring Loc Identifier:	USGS-385841095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	819.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	E	0.52	2,735.53	816.55	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98194630000000
Source Map Scale:	24000	Longitude:	-95.2416390000000
Monitoring Loc Name:	12S 20E 30BBC 01		
Monitoring Loc Identifier:	USGS-385855095142901		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	823.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
16	E	0.52	2,735.53	816.55	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.98194630000000
Source Map Scale:	24000	Longitude:	-95.2416390000000
Monitoring Loc Name:	12S 20E 30BBC 02		
Monitoring Loc Identifier:	USGS-385855095142902		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	820.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
17	ENE	0.52	2,760.95	822.63	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98415000000000
Source Map Scale:		Longitude:	-95.2418972000000
Monitoring Loc Name:	KS2004503 AGGREGATE GW WITHDRAWAL		
Monitoring Loc Identifier:	KS003-9200458100004		
Monitoring Loc Type:	Aggregate groundwater use		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	Unknown		
Horizontal Accuracy Unit:	Unknown		

Horizontal Collection Mthd:	Unknown.
Horiz Coord Refer System:	NAD83
Vertical Measure:	
Vertical Measure Unit:	
Vertical Accuracy:	
Vertical Accuracy Unit:	
Vertical Collection Mthd:	
Vert Coord Refer System:	

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	ESE	0.53	2,795.47	818.14	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98000190000000
Source Map Scale:	24000	Longitude:	-95.2416390000000
Monitoring Loc Name:	12S 20E 30BCB 01		
Monitoring Loc Identifier:	USGS-385848095142901		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	830.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
19	ESE	0.53	2,795.47	818.14	FED USGS

Wells and Additional Sources Detail Report

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	48.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98000190000000
Source Map Scale:	24000	Longitude:	-95.2416390000000
Monitoring Loc Name:	12S 20E 30BCB 02		
Monitoring Loc Identifier:	USGS-385848095142902		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	817.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
20	NNE	0.54	2,825.83	824.17	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98889055000000
Source Map Scale:	24000	Longitude:	-95.2463613000000
Monitoring Loc Name:	12S 19E 24DAC 01		
Monitoring Loc Identifier:	USGS-385920095144601		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:
Drainage Area Unit:
Contrib Drainage Area:
Contrib Drainage Area Unit:
Horizontal Accuracy: 10
Horizontal Accuracy Unit: seconds
Horizontal Collection Mthd: Interpolated from MAP.
Horiz Coord Refer System: NAD83
Vertical Measure: 818.00
Vertical Measure Unit: feet
Vertical Accuracy: 1.
Vertical Accuracy Unit: feet
Vertical Collection Mthd: Level or other surveyed method.
Vert Coord Refer System: NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
21	NNE	0.55	2,897.75	850.33	FED USGS

Organiz Identifier: USGS-KS
Organiz Name: USGS Kansas Water Science Center
Well Depth:
Well Depth Unit:
Well Hole Depth:
W Hole Depth Unit:
Construction Date:
Source Map Scale:
Monitoring Loc Name: 12S 19E 23DB 01
Monitoring Loc Identifier: USGS-385924095145801
Monitoring Loc Type: Well
Monitoring Loc Desc:
HUC Eight Digit Code: 10270104
Drainage Area:
Drainage Area Unit:
Contrib Drainage Area:
Contrib Drainage Area Unit:
Horizontal Accuracy: 1
Horizontal Accuracy Unit: minutes
Horizontal Collection Mthd: Interpolated from MAP.
Horiz Coord Refer System: NAD83
Vertical Measure:
Vertical Measure Unit:
Vertical Accuracy:
Vertical Accuracy Unit:
Formation Type: Quaternary Alluvium
Aquifer Name: Alluvial aquifers
Aquifer Type:
Country Code: US
Provider Name: NWIS
County: DOUGLAS
Latitude: 38.99000160000000
Longitude: -95.2496947000000

Vertical Collection Mthd:
Vert Coord Refer System:

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
25	N	0.60	3,167.25	867.69	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99083490000000
Source Map Scale:		Longitude:	-95.2510836000000
Monitoring Loc Name:	12S 19E 24DBB 01		
Monitoring Loc Identifier:	USGS-385927095150301		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	1		
Horizontal Accuracy Unit:	minutes		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:			
Vertical Measure Unit:			
Vertical Accuracy:			
Vertical Accuracy Unit:			
Vertical Collection Mthd:			
Vert Coord Refer System:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.97916860000000
Source Map Scale:	24000	Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 03		
Monitoring Loc Identifier:	USGS-385845095142503		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	816.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:		Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 01		
Monitoring Loc Identifier:	USGS-385845095142501		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	816.00
Vertical Measure Unit:	feet
Vertical Accuracy:	5
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:	24000	Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 02		
Monitoring Loc Identifier:	USGS-385845095142502		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	816.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:	24000	Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 04		
Monitoring Loc Identifier:	USGS-385845095142504		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	815.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	47.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:		Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 05		
Monitoring Loc Identifier:	USGS-385845095142505		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	814.00
Vertical Measure Unit:	feet
Vertical Accuracy:	5
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	48.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:		Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 06		
Monitoring Loc Identifier:	USGS-385845095142506		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	815.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916860000000
Source Map Scale:		Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 07		
Monitoring Loc Identifier:	USGS-385845095142507		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	822.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
27	ESE	0.60	3,175.66	818.01	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	52.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.97916860000000
Source Map Scale:		Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 30BC 08		
Monitoring Loc Identifier:	USGS-385845095142508		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	818.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	5		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
28	E	0.62	3,282.33	812.51	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98126667000000
Source Map Scale:	24000	Longitude:	-95.2397222000000
Monitoring Loc Name:	KANSAS R NR W. 2ND ST, LAWRENCE, KS		
Monitoring Loc Identifier:	USGS-385853095142300		
Monitoring Loc Type:	Stream		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	.01		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	813
Vertical Measure Unit:	feet
Vertical Accuracy:	1.6
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Interpolated from Digital Elevation Model
Vert Coord Refer System:	NAVD88

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	E	0.63	3,311.06	812.52	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.9813019
Source Map Scale:		Longitude:	-95.2396196
Monitoring Loc Name:	3515N 4548W 30-12-20E 5		
Monitoring Loc Identifier:	KS003-9200038313		
Monitoring Loc Type:	Facility: Diversion		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	Unknown		
Horizontal Accuracy Unit:	Unknown		
Horizontal Collection Mthd:	Reported.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:			
Vertical Measure Unit:			
Vertical Accuracy:			
Vertical Accuracy Unit:			
Vertical Collection Mthd:			
Vert Coord Refer System:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
29	E	0.63	3,311.06	812.52	FED USGS

Wells and Additional Sources Detail Report

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98130190000000
Source Map Scale:		Longitude:	-95.2396196000000
Monitoring Loc Name:	INTAKE ON KANSAS RIVER 03		
Monitoring Loc Identifier:	KS003-920045038313		
Monitoring Loc Type:	Facility: Diversion		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	Unknown		
Horizontal Accuracy Unit:	Unknown		
Horizontal Collection Mthd:	Reported.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:			
Vertical Measure Unit:			
Vertical Accuracy:			
Vertical Accuracy Unit:			
Vertical Collection Mthd:			
Vert Coord Refer System:			

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
31	NNW	0.63	3,333.43	860.55	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99083489000000
Source Map Scale:		Longitude:	-95.2555281000000
Monitoring Loc Name:	12S 19E 24CAB 01		
Monitoring Loc Identifier:	USGS-385927095151901		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	870.00
Vertical Measure Unit:	feet
Vertical Accuracy:	5
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Interpolated from topographic map.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
33	ENE	0.65	3,421.63	810.97	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98639066000000
Source Map Scale:	24000	Longitude:	-95.2405279000000
Monitoring Loc Name:	12S 20E 19CC 01		
Monitoring Loc Identifier:	USGS-385911095142501		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	818.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd: Level or other surveyed method.
Vert Coord Refer System: NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
35	SSE	0.67	3,528.79	858.53	FED USGS

Organiz Identifier: USGS-KS
Organiz Name: USGS Kansas Water Science Center
Well Depth: 44.0
Well Depth Unit: ft
Well Hole Depth:
W Hole Depth Unit:
Construction Date:
Source Map Scale: 24000
Monitoring Loc Name: 12S 19E 25DDB 01
Monitoring Loc Identifier: USGS-385822095144501
Monitoring Loc Type: Well
Monitoring Loc Desc:
HUC Eight Digit Code: 10270104
Drainage Area:
Drainage Area Unit:
Contrib Drainage Area:
Contrib Drainage Area Unit:
Horizontal Accuracy: 10
Horizontal Accuracy Unit: seconds
Horizontal Collection Mthd: Interpolated from MAP.
Horiz Coord Refer System: NAD83
Vertical Measure: 852.00
Vertical Measure Unit: feet
Vertical Accuracy: 10.
Vertical Accuracy Unit: feet
Vertical Collection Mthd: Interpolated from topographic map.
Vert Coord Refer System: NGVD29
Formation Type:
Aquifer Name:
Aquifer Type:
Country Code: US
Provider Name: NWIS
County: DOUGLAS
Latitude: 38.97277980000000
Longitude: -95.2460836000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
36	WNW	0.71	3,743.91	861.80	FED USGS

Organiz Identifier: USGS-KS
Organiz Name: USGS Kansas Water Science Center
Well Depth: 20
Well Depth Unit: ft
Well Hole Depth:
W Hole Depth Unit:
Formation Type:
Aquifer Name:
Aquifer Type:
Country Code: US
Provider Name: NWIS
County: DOUGLAS

Construction Date:		Latitude:	38.98639050000000
Source Map Scale:		Longitude:	-95.2638616000000
Monitoring Loc Name:	12S 19E 23DD 01		
Monitoring Loc Identifier:	USGS-385911095154901		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	862		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.6		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from Digital Elevation Model		
Vert Coord Refer System:	NAVD88		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
37	N	0.71	3,774.24	868.69	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:	30.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:	19400101	Latitude:	38.99250150000000
Source Map Scale:		Longitude:	-95.2510836000000
Monitoring Loc Name:	12S 19E 23ACC 01		
Monitoring Loc Identifier:	USGS-385933095150301		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	856.10
Vertical Measure Unit:	feet
Vertical Accuracy:	.1
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
38	NNE	0.76	4,022.80	818.49	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99250157000000
Source Map Scale:	24000	Longitude:	-95.2463613000000
Monitoring Loc Name:	12S 19E 24ADC 01		
Monitoring Loc Identifier:	USGS-385933095144601		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	820.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	NNE	0.82	4,320.65	817.79	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	51.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99250159000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 24ADD 01		
Monitoring Loc Identifier:	USGS-385933095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	821.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
40	NNE	0.82	4,320.65	817.79	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99250159000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 24ADD 02		
Monitoring Loc Identifier:	USGS-385933095143702		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	819.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.83	4,400.18	819.68	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98277967000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 30BA 01		
Monitoring Loc Identifier:	USGS-385858095140801		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	817.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.83	4,400.18	819.68	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	45.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98277967000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 30BA 02		
Monitoring Loc Identifier:	USGS-385858095140802		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	815.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
42	E	0.83	4,400.18	819.68	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	45.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.98277967000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 30BA 03		
Monitoring Loc Identifier:	USGS-385858095140803		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	811.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
44	ESE	0.85	4,481.11	820.16	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	27.00	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916865000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 30BD 02		
Monitoring Loc Identifier:	USGS-385845095140802		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	1		
Horizontal Accuracy Unit:	minutes		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	820.0
Vertical Measure Unit:	feet
Vertical Accuracy:	5
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Interpolated from topographic map.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
44	ESE	0.85	4,481.11	820.16	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	29.00	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.97916865000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 30BD 01		
Monitoring Loc Identifier:	USGS-385845095140801		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	1		
Horizontal Accuracy Unit:	minutes		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	823.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
45	NNE	0.86	4,546.34	826.00	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	30.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99444595000000
Source Map Scale:	24000	Longitude:	-95.2485836000000
Monitoring Loc Name:	12S 19E 24ACA 01		
Monitoring Loc Identifier:	USGS-385940095145401		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	856.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	ENE	0.88	4,658.64	820.45	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:		Aquifer Type:	
Well Depth Unit:		Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98639070000000
Source Map Scale:		Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 19CD 02		
Monitoring Loc Identifier:	USGS-385911095140802		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	819.50
Vertical Measure Unit:	feet
Vertical Accuracy:	.1
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
47	ENE	0.88	4,658.64	820.45	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98639070000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 19CD 01		
Monitoring Loc Identifier:	USGS-385911095140801		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	820.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd: Level or other surveyed method.
Vert Coord Refer System: NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
48	NNE	0.89	4,693.63	820.00	FED USGS

Organiz Identifier: USGS-KS
Organiz Name: USGS Kansas Water Science Center
Well Depth: 50.0
Well Depth Unit: ft
Well Hole Depth:
W Hole Depth Unit:
Construction Date: 19400101
Source Map Scale:
Monitoring Loc Name: 12S 19E 24ADB 01
Monitoring Loc Identifier: USGS-385940095144601
Monitoring Loc Type: Well
Monitoring Loc Desc:
HUC Eight Digit Code: 10270104
Drainage Area:
Drainage Area Unit:
Contrib Drainage Area:
Contrib Drainage Area Unit:
Horizontal Accuracy: 10
Horizontal Accuracy Unit: seconds
Horizontal Collection Mthd: Interpolated from MAP.
Horiz Coord Refer System: NAD83
Vertical Measure: 821.60
Vertical Measure Unit: feet
Vertical Accuracy: .1
Vertical Accuracy Unit: feet
Vertical Collection Mthd: Level or other surveyed method.
Vert Coord Refer System: NGVD29

Formation Type: Quaternary Alluvium
Aquifer Name: Alluvial aquifers
Aquifer Type:
Country Code: US
Provider Name: NWIS
County: DOUGLAS
Latitude: 38.99444597000000
Longitude: -95.2463613000000

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
49	SE	0.89	4,707.74	834.59	FED USGS

Organiz Identifier: USGS-KS
Organiz Name: USGS Kansas Water Science Center
Well Depth: 222
Well Depth Unit: ft
Well Hole Depth:
W Hole Depth Unit:

Formation Type:
Aquifer Name: Other aquifers
Aquifer Type:
Country Code: US
Provider Name: NWIS
County: DOUGLAS

Construction Date:		Latitude:	38.97277988000000
Source Map Scale:	24000	Longitude:	-95.2391390000000
Monitoring Loc Name:	12S 20E 30CCA 01		
Monitoring Loc Identifier:	USGS-385822095142001		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	845.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	10.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
52	NE	0.90	4,743.31	816.47	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	49.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99277938000000
Source Map Scale:	24000	Longitude:	-95.2416390000000
Monitoring Loc Name:	12S 20E 19BCC 01		
Monitoring Loc Identifier:	USGS-385934095142901		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	817.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
58	NW	0.92	4,879.55	879.02	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:	141	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:	147	Provider Name:	NWIS
W Hole Depth Unit:	ft	County:	DOUGLAS
Construction Date:		Latitude:	38.99250150000000
Source Map Scale:		Longitude:	-95.2627505000000
Monitoring Loc Name:	12S 19E 23ADD 01		
Monitoring Loc Identifier:	USGS-385933095154501		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	880.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	3		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
59	NNE	0.93	4,905.41	826.24	FED USGS

Wells and Additional Sources Detail Report

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:	19400101	Latitude:	38.99527927000000
Source Map Scale:		Longitude:	-95.2474724000000
Monitoring Loc Name:	12S 19E 24A 01		
Monitoring Loc Identifier:	USGS-385943095145001		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	821.40		
Vertical Measure Unit:	feet		
Vertical Accuracy:	.1		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
61	NNE	0.94	4,951.28	821.22	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99444599000000
Source Map Scale:	24000	Longitude:	-95.2438613000000
Monitoring Loc Name:	12S 19E 24ADA 01		
Monitoring Loc Identifier:	USGS-385940095143701		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		

Drainage Area:	
Drainage Area Unit:	
Contrib Drainage Area:	
Contrib Drainage Area Unit:	
Horizontal Accuracy:	10
Horizontal Accuracy Unit:	seconds
Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	822.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
63	WNW	0.95	4,997.18	883.80	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Kansan Glaciofluvial Deposits
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Sand and gravel aquifers (glaciated regions)
Well Depth:	183	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98639050000000
Source Map Scale:	24000	Longitude:	-95.2685839000000
Monitoring Loc Name:	12S 19E 23DC 01		
Monitoring Loc Identifier:	USGS-385911095160601		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	890.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	10.		
Vertical Accuracy Unit:	feet		

Vertical Collection Mthd:	Interpolated from topographic map.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
69	W	0.97	5,095.57	894.43	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Stranger Formation
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Other aquifers
Well Depth:	135	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.98361280000000
Source Map Scale:	24000	Longitude:	-95.2696950000000
Monitoring Loc Name:	12S 19E 26ABB 02		
Monitoring Loc Identifier:	USGS-385901095161002		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	892.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	10.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
69	W	0.97	5,095.57	894.43	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Kansan Glaciofluvial Deposits
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Sand and gravel aquifers (glaciated regions)
Well Depth:	237	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS

Construction Date:		Latitude:	38.98361280000000
Source Map Scale:	24000	Longitude:	-95.2696950000000
Monitoring Loc Name:	12S 19E 26ABB 01		
Monitoring Loc Identifier:	USGS-385901095161001		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	890.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	10.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Interpolated from topographic map.		
Vert Coord Refer System:	NGVD29		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
80	ENE	0.99	5,244.45	823.78	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	45.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99000170000000
Source Map Scale:	24000	Longitude:	-95.2358056000000
Monitoring Loc Name:	12S 20E 19CA 01		
Monitoring Loc Identifier:	USGS-385924095140801		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		

Horizontal Collection Mthd:	Interpolated from MAP.
Horiz Coord Refer System:	NAD83
Vertical Measure:	816.00
Vertical Measure Unit:	feet
Vertical Accuracy:	1.
Vertical Accuracy Unit:	feet
Vertical Collection Mthd:	Level or other surveyed method.
Vert Coord Refer System:	NGVD29

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
82	NNE	1.00	5,276.42	821.59	FED USGS

Organiz Identifier:	USGS-KS	Formation Type:	Quaternary Alluvium
Organiz Name:	USGS Kansas Water Science Center	Aquifer Name:	Alluvial aquifers
Well Depth:	50.0	Aquifer Type:	
Well Depth Unit:	ft	Country Code:	US
Well Hole Depth:		Provider Name:	NWIS
W Hole Depth Unit:		County:	DOUGLAS
Construction Date:		Latitude:	38.99611260000000
Source Map Scale:	24000	Longitude:	-95.2463613000000
Monitoring Loc Name:	12S 19E 24AAC 01		
Monitoring Loc Identifier:	USGS-385946095144601		
Monitoring Loc Type:	Well		
Monitoring Loc Desc:			
HUC Eight Digit Code:	10270104		
Drainage Area:			
Drainage Area Unit:			
Contrib Drainage Area:			
Contrib Drainage Area Unit:			
Horizontal Accuracy:	10		
Horizontal Accuracy Unit:	seconds		
Horizontal Collection Mthd:	Interpolated from MAP.		
Horiz Coord Refer System:	NAD83		
Vertical Measure:	821.00		
Vertical Measure Unit:	feet		
Vertical Accuracy:	1.		
Vertical Accuracy Unit:	feet		
Vertical Collection Mthd:	Level or other surveyed method.		
Vert Coord Refer System:	NGVD29		

Water Well Completion Records Database

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
1	WSW	0.21	1,113.31	872.72	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	547962	County:	Douglas
Well K ID:	1052084922	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Jul-2021	Spot:	NE SE SW NW
Well Depth:	50	Longitude:	-95.2554566
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9803562
Static Depth:	37.1	Long Lat Type:	GPS
Elev:	872.82	NAD83 Longitude:	-95.25571
Est Yield:		NAD83 Latitude:	38.98036
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Tri-Angle Holdings Corporation
Contam Source Dist:			
Driller:	Larsen & Associates		
Directions:	1801 W 2nd St, Lawrence (U4-023-13112/15061)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=547962		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
3	WSW	0.22	1,152.83	874.36	WATER WELLS

Well ID:	547963	County:	Douglas
Well K ID:	1052084924	Township:	12
Other ID:	MW 10	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	06-Jul-2021	Spot:	NW SE SW NW
Well Depth:	51	Longitude:	-95.2557149
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9805775
Static Depth:	37.38	Long Lat Type:	GPS
Elev:	875.22	NAD83 Longitude:	-95.25597
Est Yield:		NAD83 Latitude:	38.98058
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Tri-Angle Holdings Corporation
Contam Source Dist:			
Driller:	Larsen & Associates		
Directions:	From 1802 W 2nd St, Lawrence: 70' N (U4-023-13112/15061)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=547963		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	336431	County:	Douglas
Well K ID:	1040452853	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Feb-2003	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd, W of store, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=336431		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	336432	County:	Douglas
Well K ID:	1040452855	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Feb-2003	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=336432		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	335187	County:	Douglas

Wells and Additional Sources Detail Report

Well K ID:	1040452287	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Nov-2002	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=335187		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	335188	County:	Douglas
Well K ID:	1040452289	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Nov-2002	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=335188		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	336443	County:	Douglas
Well K ID:	1040452875	Township:	12

Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Feb-2003	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=336443		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	335189	County:	Douglas
Well K ID:	1040452291	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	20-Nov-2002	Spot:	SE SW NW
Well Depth:	35	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=335189		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	336442	County:	Douglas
Well K ID:	1040452873	Township:	12
Other ID:	MW 7	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Feb-2003	Spot:	SE SW NW
Well Depth:	40	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd, 80' E, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=336442		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
4	WSW	0.29	1,522.40	873.18	WATER WELLS

Well ID:	335190	County:	Douglas
Well K ID:	1040452293	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	575	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	20-Nov-2002	Spot:	SE SW NW
Well Depth:	35	Longitude:	-95.2566237
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9796592
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568742
Est Yield:		NAD83 Latitude:	38.9796611
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Miller, Dale
Contam Source Dist:			
Driller:	Funkee Drilling Service		
Directions:	1801 W 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=335190		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
6	ENE	0.39	2,066.33	817.77	WATER WELLS

Well ID:	12123	County:	Douglas
Well K ID:	1044872557	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19

Wells and Additional Sources Detail Report

Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	14-Jun-1991	Spot:	NW NE NE
Well Depth:	27	Longitude:	-95.2450282
Well Use:	Domestic	Latitude:	38.9850585
Static Depth:	10	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2452784
Est Yield:		NAD83 Latitude:	38.9850602
Contam Source Type:	Watertight sewer lines	Scanned:	Yes
Contam Source Dir:		Owner:	City of Lawrence
Contam Source Dist:	0		
Driller:	W.A. Dunbar and Son		
Directions:	2nd and Indiana St, City Water Dept. Shop Area		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12123		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
8	WSW	0.40	2,131.44	876.43	WATER WELLS

Well ID:	452485	County:	Douglas
Well K ID:	1044069439	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	740	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	19-Dec-2011	Spot:	SW SW NW
Well Depth:	80	Longitude:	-95.2589504
Well Use:	Domestic, Lawn and Garden	Latitude:	38.9796594
Static Depth:	24	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2592009
Est Yield:	16	NAD83 Latitude:	38.9796612
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Bhakta, Jay
Contam Source Dist:			
Driller:	Weninger Drilling, Inc.		
Directions:	150 Iowa, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=452485		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	310726	County:	Douglas
Well K ID:	1044009707	Township:	12
Other ID:	Well 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	PLUGGED	Section:	25

Plugged Date:	11-Feb-2000	Spot:	SE NE NE
Well Depth:	51	Longitude:	-95.2426898
Well Use:	(unstated)/abandoned	Latitude:	38.9832541
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	City of Lawrence
Contam Source Dist:			
Driller:	Layne-Christensen Co.		
Directions:	Burchum City Park		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=310726		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	389442	County:	Douglas
Well K ID:	1040501072	Township:	12
Other ID:	PZ 1-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	09-Aug-2006	Spot:	SE NE NE
Well Depth:	50	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.34	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	NNE of W 2nd St and Indiana St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=389442		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	389443	County:	Douglas
Well K ID:	1040502366	Township:	12
Other ID:	PZ 2-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	09-Aug-2006	Spot:	SE NE NE

Well Depth:	52	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.28	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	NNE of W 2nd St and Indiana St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=389443		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	382135	County:	Douglas
Well K ID:	1040502366	Township:	12
Other ID:	PZ 2-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	08-Mar-2006	Spot:	SE NE NE
Well Depth:	52	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.28	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	from W 2nd St and Indiana St: NNE, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=382135		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	382137	County:	Douglas
Well K ID:	1040501950	Township:	12
Other ID:	PZ 4-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	08-Mar-2006	Spot:	SE NE NE
Well Depth:	52	Longitude:	-95.2426898

Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.44	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	from W 2nd St and Indiana St: NNE, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=382137		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	389445	County:	Douglas
Well K ID:	1040501950	Township:	12
Other ID:	PZ 4-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	09-Aug-2006	Spot:	SE NE NE
Well Depth:	52	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.44	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	NNE of W 2nd St and Indiana St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=389445		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	382134	County:	Douglas
Well K ID:	1040501072	Township:	12
Other ID:	PZ 1-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	07-Mar-2006	Spot:	SE NE NE
Well Depth:	50	Longitude:	-95.2426898
Well Use:	Monitoring	Latitude:	38.9832541

	well/observation/piezometer		
Static Depth:	11.34	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	from W 2nd St and Indiana St: NNE, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=382134		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	389444	County:	Douglas
Well K ID:	1040499284	Township:	12
Other ID:	PZ 3-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	09-Aug-2006	Spot:	SE NE NE
Well Depth:	50	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541
Static Depth:	11.3	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	NNE of W 2nd St and Indiana St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=389444		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
14	E	0.47	2,470.38	817.52	WATER WELLS

Well ID:	382136	County:	Douglas
Well K ID:	1040499284	Township:	12
Other ID:	PZ 3-06	Twn Dir:	S
DWR No:	8183	Range:	19
Contractors Lic No:	185	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	08-Mar-2006	Spot:	SE NE NE
Well Depth:	50	Longitude:	-95.2426898
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9832541

Static Depth:	11.3	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.24294
Est Yield:		NAD83 Latitude:	38.9832559
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Burns and McDonnell
Contam Source Dist:			
Driller:	Clarke Well and Equipment, Inc.		
Directions:	from W 2nd St and Indiana St: NNE, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=382136		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	434672	County:	Douglas
Well K ID:	1040093717	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SW SE
Well Depth:	16.4	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1306 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434672		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	341776	County:	Douglas
Well K ID:	1044009704	Township:	12
Other ID:	MW 3A	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Oct-2003	Spot:	NW SW SE
Well Depth:	20	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS

Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Quad State Services, Inc.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=341776		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	341774	County:	Douglas
Well K ID:	1040093713	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Oct-2003	Spot:	NW SW SE
Well Depth:	20	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Quad State Services, Inc.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=341774		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	12117	County:	Douglas
Well K ID:	1040093711	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:		Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-May-1992	Spot:	NW SW SE
Well Depth:	19	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:	843	NAD83 Longitude:	-95.249859

Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	NO
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Layne Christensen Co.		
Directions:	1306 N 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12117		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	434673	County:	Douglas
Well K ID:	1040458440	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SW SE
Well Depth:	16	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1306 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434673		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	412877	County:	Douglas
Well K ID:	1040532208	Township:	12
Other ID:	MW 7	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	26-Mar-2008	Spot:	NW SW SE
Well Depth:	30	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:	8.51	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482

Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Quad State Services, Inc.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=412877		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	12120	County:	Douglas
Well K ID:	1040093717	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-May-1992	Spot:	NW SW SE
Well Depth:	16	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:	847	NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:	Fuel storage	Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:	0		
Driller:	Layne-Christensen Co.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12120		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	341773	County:	Douglas
Well K ID:	1040458440	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	16-Oct-2003	Spot:	NW SW SE
Well Depth:	30	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:	863	NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes

Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Quad State Services, Inc.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=341773		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	12124	County:	Douglas
Well K ID:	1040093724	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-May-1992	Spot:	NW SW SE
Well Depth:	18	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:	Fuel storage	Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:	0		
Driller:	Layne-Christensen Co.		
Directions:	1306 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12124		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	412874	County:	Douglas
Well K ID:	1044009703	Township:	12
Other ID:	MW 3 B	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	26-Mar-2008	Spot:	NW SW SE
Well Depth:	20	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:	14.65	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.

Contam Source Dist:
Driller: Quad State Services, Inc.
Directions: 1306 W 6th St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=412874

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	434692	County:	Douglas
Well K ID:	1040532208	Township:	12
Other ID:	MW 7	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SW SE
Well Depth:	16.4	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1306 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434692		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	434670	County:	Douglas
Well K ID:	1040093715	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SW SE
Well Depth:	16.2	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			

Driller: Larsen and Associates, Inc.
Directions: 1306 W 6th, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434670

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	434671	County:	Douglas
Well K ID:	1040530393	Township:	12
Other ID:	MW 3 BR	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SW SE
Well Depth:	33.3	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			

Driller: Larsen and Associates, Inc.
Directions: 1306 W 6th, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434671

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	12119	County:	Douglas
Well K ID:	1040093715	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-May-1992	Spot:	NW SW SE
Well Depth:	16.5	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:	846	NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:	Fuel storage	Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:	0		
Driller:	Layne-Christensen Co.		

Directions: 1306 W 6th St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12119

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	12118	County:	Douglas
Well K ID:	1040093713	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-May-1992	Spot:	NW SW SE
Well Depth:	18.5	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:		Long Lat Type:	From PLSS
Elev:	843.8	NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:	Fuel storage	Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:	0		
Driller:	Layne-Christensen Co.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12118		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
15	S	0.51	2,714.04	859.62	WATER WELLS

Well ID:	412876	County:	Douglas
Well K ID:	1040530393	Township:	12
Other ID:	MW 3 BR	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	692	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	26-Mar-2008	Spot:	NW SW SE
Well Depth:	35	Longitude:	-95.2496086
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742461
Static Depth:	22.15	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.249859
Est Yield:		NAD83 Latitude:	38.9742482
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Quad State Services, Inc.		
Directions:	1306 W 6th St, Lawrence		

Wells and Additional Sources Detail Report

URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=412876

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	SSW	0.52	2,762.53	888.66	WATER WELLS

Well ID:	347620	County:	Douglas
Well K ID:	1040466218	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	102	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	15-May-1992	Spot:	NW SE SW
Well Depth:	16	Longitude:	-95.2542649
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742335
Static Depth:		Long Lat Type:	From PLSS
Elev:	847	NAD83 Longitude:	-95.2545153
Est Yield:		NAD83 Latitude:	38.9742355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Layne-Christensen Co.		
Directions:	1306 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347620		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
18	SSW	0.52	2,762.53	888.66	WATER WELLS

Well ID:	434510	County:	Douglas
Well K ID:	1040466218	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NW SE SW
Well Depth:	15	Longitude:	-95.2542649
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742335
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2545153
Est Yield:		NAD83 Latitude:	38.9742355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1306 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434510		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	SSE	0.55	2,900.62	851.52	WATER WELLS

Well ID:	425443	County:	Douglas
Well K ID:	1040792611	Township:	12
Other ID:	MW 12	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	23-Apr-2009	Spot:	NE SW SE
Well Depth:	30	Longitude:	-95.2472804
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742524
Static Depth:	21.4	Long Lat Type:	From PLSS
Elev:	860.52	NAD83 Longitude:	-95.2475308
Est Yield:		NAD83 Latitude:	38.9742545
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1220 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=425443		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
22	SSE	0.55	2,900.62	851.52	WATER WELLS

Well ID:	434669	County:	Douglas
Well K ID:	1040792611	Township:	12
Other ID:	MW 12	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	NE SW SE
Well Depth:	30	Longitude:	-95.2472804
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9742524
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2475308
Est Yield:		NAD83 Latitude:	38.9742545
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1220 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434669		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	S	0.57	3,025.45	887.54	WATER WELLS

Well ID:	434697	County:	Douglas
Well K ID:	1040093721	Township:	12
Other ID:	KDHE MW 1	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	SE SW
Well Depth:	16.27	Longitude:	-95.2530953
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.973333
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2533458
Est Yield:		NAD83 Latitude:	38.973335
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1602 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434697		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	S	0.57	3,025.45	887.54	WATER WELLS

Well ID:	12121	County:	Douglas
Well K ID:	1040093719	Township:	12
Other ID:	Old Jayhawk Oil MW 3	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:		Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Feb-1989	Spot:	SE SW
Well Depth:	18.5	Longitude:	-95.2530953
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.973333
Static Depth:	15.3	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2533458
Est Yield:		NAD83 Latitude:	38.973335
Contam Source Type:	Sewer lines	Scanned:	Yes
Contam Source Dir:		Owner:	KDHE
Contam Source Dist:	0		
Driller:	KDHE		
Directions:	1302 W 6th St, Lawrence - 43' W, 48' N of NE corner of liquor store bldg		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12121		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
23	S	0.57	3,025.45	887.54	WATER WELLS

Well ID:	12122	County:	Douglas
Well K ID:	1040093721	Township:	12
Other ID:	Old Jayhawk Oil MW 1	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:		Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	31-Jan-1989	Spot:	SE SW
Well Depth:	17	Longitude:	-95.2530953
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.973333
Static Depth:	9.6	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2533458
Est Yield:	1	NAD83 Latitude:	38.973335
Contam Source Type:	Sewer lines	Scanned:	Yes
Contam Source Dir:		Owner:	KDHE
Contam Source Dist:	0		
Driller:	KDHE		
Directions:	1302 W 6th St, Lawrence - 39' N of N sidewalk on 6th St, 20' W of E property line		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12122		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
24	E	0.59	3,091.24	819.23	WATER WELLS

Well ID:	310727	County:	Douglas
Well K ID:	1044010332	Township:	12
Other ID:	Well 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	102	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	10-Feb-2000	Spot:	NW SW NW
Well Depth:	48	Longitude:	-95.2403883
Well Use:	(unstated)/abandoned	Latitude:	38.9814612
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2406385
Est Yield:		NAD83 Latitude:	38.9814631
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	City of Lawrence
Contam Source Dist:			
Driller:	Layne-Christensen Co.		
Directions:	Burchum City Park		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=310727		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SE	0.60	3,171.12	836.16	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	312101	County:	Douglas
Well K ID:	1044009712	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	539	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	21-Apr-2000	Spot:	SE NE SE
Well Depth:	15	Longitude:	-95.2426373
Well Use:	(unstated)/abandoned	Latitude:	38.9760628
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2428875
Est Yield:		NAD83 Latitude:	38.9760648
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	USD 497 Maint. Facility
Contam Source Dist:			
Driller:	JB Environmental Drilling		
Directions:	Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=312101		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SE	0.60	3,171.12	836.16	WATER WELLS

Well ID:	312100	County:	Douglas
Well K ID:	1044009711	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	539	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	21-Apr-2000	Spot:	SE NE SE
Well Depth:	15	Longitude:	-95.2426373
Well Use:	(unstated)/abandoned	Latitude:	38.9760628
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2428875
Est Yield:		NAD83 Latitude:	38.9760648
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	USD 497 Maint. Facility
Contam Source Dist:			
Driller:	JB Environmental Drilling		
Directions:	Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=312100		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SE	0.60	3,171.12	836.16	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	312103	County:	Douglas
Well K ID:	1044009714	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	539	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	21-Apr-2000	Spot:	SE NE SE
Well Depth:	15	Longitude:	-95.2426373
Well Use:	(unstated)/abandoned	Latitude:	38.9760628
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2428875
Est Yield:		NAD83 Latitude:	38.9760648
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	USD 497 Maint. Facility
Contam Source Dist:			
Driller:	JB Environmental Drilling		
Directions:	Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=312103		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SE	0.60	3,171.12	836.16	WATER WELLS

Well ID:	312102	County:	Douglas
Well K ID:	1044009715	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	539	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	21-Apr-2000	Spot:	SE NE SE
Well Depth:	15	Longitude:	-95.2426373
Well Use:	(unstated)/abandoned	Latitude:	38.9760628
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2428875
Est Yield:		NAD83 Latitude:	38.9760648
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	USD 497 Maint. Facility
Contam Source Dist:			
Driller:	JB Environmental Drilling		
Directions:	Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=312102		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
26	SE	0.60	3,171.12	836.16	WATER WELLS

Well ID:	312104	County:	Douglas
Well K ID:	1044009713	Township:	12

Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	539	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	21-Apr-2000	Spot:	SE NE SE
Well Depth:	20	Longitude:	-95.2426373
Well Use:	(unstated)/abandoned	Latitude:	38.9760628
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2428875
Est Yield:		NAD83 Latitude:	38.9760648
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	USD 497 Maint. Facility
Contam Source Dist:			
Driller:	JB Environmental Drilling		
Directions:	Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=312104		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347627	County:	Douglas
Well K ID:	1040466232	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	14.36	Long Lat Type:	From PLSS
Elev:	878.82	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347627		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434518	County:	Douglas
Well K ID:	1040466226	Township:	12
Other ID:	MW 6	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	14.7	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434518		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347622	County:	Douglas
Well K ID:	1040466222	Township:	12
Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	15	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	7	Long Lat Type:	From PLSS
Elev:	867.93	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347622		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347236	County:	Douglas
Well K ID:	1040463653	Township:	12
Other ID:	MW 2	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	585	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	13-Apr-2004	Spot:	SE SE SW
Well Depth:	25	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	8.33	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE Time and Materials/Texaco
Contam Source Dist:			
Driller:	Associated Environmental, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347236		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347626	County:	Douglas
Well K ID:	1040466230	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	17	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	14.09	Long Lat Type:	From PLSS
Elev:	876.44	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347626		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434512	County:	Douglas
Well K ID:	1040466234	Township:	12
Other ID:	MW 1	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	19.2	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434512		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347625	County:	Douglas
Well K ID:	1040466228	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	6.85	Long Lat Type:	From PLSS
Elev:	873.84	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347625		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347628	County:	Douglas
Well K ID:	1040466234	Township:	12
Other ID:	MW 1	Twn Dir:	S

Wells and Additional Sources Detail Report

DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	7.68	Long Lat Type:	From PLSS
Elev:	876.12	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347628		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347629	County:	Douglas
Well K ID:	1040466236	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	6.83	Long Lat Type:	From PLSS
Elev:	870.59	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347629		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347623	County:	Douglas
Well K ID:	1040466224	Township:	12
Other ID:	MW 7	Twn Dir:	S

Wells and Additional Sources Detail Report

DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	15	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:	869.85	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347623		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434514	County:	Douglas
Well K ID:	1040466232	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	19.5	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434514		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347237	County:	Douglas
Well K ID:	1040463655	Township:	12
Other ID:	MW 1	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	585	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	13-Apr-2004	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	8.9	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE Time and Materials/Texaco
Contam Source Dist:			
Driller:	Associated Environmental, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347237		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347624	County:	Douglas
Well K ID:	1040466226	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	15	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	2.41	Long Lat Type:	From PLSS
Elev:	872.35	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart Convenience
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347624		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347233	County:	Douglas
Well K ID:	1040463647	Township:	12
Other ID:	MW 4	Twn Dir:	S

DWR No:		Range:	19
Contractors Lic No:	585	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	13-Apr-2004	Spot:	SE SE SW
Well Depth:	25	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	22.68	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE Time and Materials/Texaco
Contam Source Dist:			
Driller:	Associated Environmental, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347233		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	409006	County:	Douglas
Well K ID:	1040524297	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	10-Aug-2007	Spot:	SE SE SW
Well Depth:	15.5	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	5.66	Long Lat Type:	From PLSS
Elev:	876.9	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=409006		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347234	County:	Douglas
Well K ID:	1040463649	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	19

Contractors Lic No:	585	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	13-Apr-2004	Spot:	SE SE SW
Well Depth:	20	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	7.94	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE Time and Materials/Texaco
Contam Source Dist:			
Driller:	Associated Environmental, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347234		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434517	County:	Douglas
Well K ID:	1040466228	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	19.65	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434517		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434519	County:	Douglas
Well K ID:	1040466220	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E

Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	6	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1315 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434519		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	434516	County:	Douglas
Well K ID:	1040466236	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	05-Sep-2009	Spot:	SE SE SW
Well Depth:	18	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1415 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434516		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	347621	County:	Douglas
Well K ID:	1040466220	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	483	Range Dir:	E
Status:	CONSTRUCTED	Section:	25

Plugged Date:	01-Oct-1997	Spot:	SE SE SW
Well Depth:	15	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	8.43	Long Lat Type:	From PLSS
Elev:	864.85	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Benefiel, Tom/Unimart
Contam Source Dist:			
Driller:	Defenbaugh Industries, Inc. (T.E.S.T.)		
Directions:	1415 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347621		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
30	S	0.63	3,333.05	881.62	WATER WELLS

Well ID:	409005	County:	Douglas
Well K ID:	1040528337	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	23-Aug-2007	Spot:	SE SE SW
Well Depth:	13	Longitude:	-95.2519255
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724334
Static Depth:	8.65	Long Lat Type:	From PLSS
Elev:	876.35	NAD83 Longitude:	-95.252176
Est Yield:		NAD83 Latitude:	38.9724355
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	KDHE
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1501 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=409005		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.64	3,363.69	868.43	WATER WELLS

Well ID:	421785	County:	Douglas
Well K ID:	1040548790	Township:	12
Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	12-Nov-2008	Spot:	SW SW SE

Well Depth:	16	Longitude:	-95.2495969
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724419
Static Depth:	12.37	Long Lat Type:	From PLSS
Elev:	863.84	NAD83 Longitude:	-95.2498473
Est Yield:		NAD83 Latitude:	38.972444
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1300 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=421785		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.64	3,363.69	868.43	WATER WELLS

Well ID:	434695	County:	Douglas
Well K ID:	1040548790	Township:	12
Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	SW SW SE
Well Depth:	15.8	Longitude:	-95.2495969
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724419
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2498473
Est Yield:		NAD83 Latitude:	38.972444
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1300 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434695		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.64	3,363.69	868.43	WATER WELLS

Well ID:	425445	County:	Douglas
Well K ID:	1040792615	Township:	12
Other ID:	MW 11	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	23-Apr-2009	Spot:	SW SW SE
Well Depth:	20	Longitude:	-95.2495969

Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724419
Static Depth:	8.95	Long Lat Type:	From PLSS
Elev:	868.32	NAD83 Longitude:	-95.2498473
Est Yield:		NAD83 Latitude:	38.972444
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1309 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=425445		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
32	S	0.64	3,363.69	868.43	WATER WELLS

Well ID:	434696	County:	Douglas
Well K ID:	1040792615	Township:	12
Other ID:	MW 11	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	SW SW SE
Well Depth:	19.9	Longitude:	-95.2495969
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724419
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2498473
Est Yield:		NAD83 Latitude:	38.972444
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1309 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434696		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	SSE	0.67	3,515.48	864.48	WATER WELLS

Well ID:	434693	County:	Douglas
Well K ID:	1040792613	Township:	12
Other ID:	MW 10	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	25
Plugged Date:	16-Sep-2009	Spot:	SE SW SE
Well Depth:	24.3	Longitude:	-95.2472683
Well Use:	Monitoring	Latitude:	38.9724503

	well/observation/piezometer		
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2475186
Est Yield:		NAD83 Latitude:	38.9724524
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Company Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1215 W 6th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=434693		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
34	SSE	0.67	3,515.48	864.48	WATER WELLS

Well ID:	425444	County:	Douglas
Well K ID:	1040792613	Township:	12
Other ID:	MW 10	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	25
Plugged Date:	23-Apr-2009	Spot:	SE SW SE
Well Depth:	25	Longitude:	-95.2472683
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9724503
Static Depth:	15.9	Long Lat Type:	From PLSS
Elev:	863.34	NAD83 Longitude:	-95.2475186
Est Yield:		NAD83 Latitude:	38.9724524
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Jayhawk Oil Co, Inc.
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	1215 W 6th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=425444		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
39	SW	0.79	4,160.06	987.07	WATER WELLS

Well ID:	520726	County:	Douglas
Well K ID:	1046944168	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	561	Range Dir:	E
Status:	CONSTRUCTED	Section:	26
Plugged Date:	26-Oct-2018	Spot:	NW NW NW SE
Well Depth:	200	Longitude:	-95.2638737
Well Use:	Geothermal, Closed Loop, Vertical	Latitude:	38.9750526

Static Depth:		Long Lat Type:	GPS
Elev:		NAD83 Longitude:	-95.264126
Est Yield:		NAD83 Latitude:	38.975056
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Buckly, Zep
Contam Source Dist:			
Driller:	Evans Energy Development, Inc.		
Directions:	502 Country Club Terr, Lawrence (five 200-foot bores)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=520726		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
41	W	0.82	4,337.14	887.50	WATER WELLS

Well ID:	501932	County:	Douglas
Well K ID:	1046131111	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	595	Range Dir:	E
Status:	PLUGGED	Section:	26
Plugged Date:	14-Nov-2012	Spot:	SE NW SW NE
Well Depth:	150	Longitude:	-95.267125
Well Use:	Test hole/well	Latitude:	38.981461
Static Depth:	0	Long Lat Type:	GPS
Elev:	884	NAD83 Longitude:	-95.2673723
Est Yield:		NAD83 Latitude:	38.9814622
Contam Source Type:	Sewer lines	Scanned:	Yes
Contam Source Dir:	N	Owner:	Lawrence Country Club
Contam Source Dist:	300		
Driller:	Jesse Yoakum Well Drilling		
Directions:	400 Country Club Terrace, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=501932		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
43	NE	0.84	4,426.06	820.83	WATER WELLS

Well ID:	12116	County:	Douglas
Well K ID:	1044009692	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	119	Range Dir:	E
Status:	CONSTRUCTED	Section:	24
Plugged Date:	16-Mar-1975	Spot:	NE NE SE
Well Depth:	49	Longitude:	-95.242737
Well Use:	Test hole/well	Latitude:	38.9923089
Static Depth:	13.67	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2429873

Est Yield:		NAD83 Latitude:	38.9923105
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Douglas Co. RWD 1
Contam Source Dist:	0		
Driller:	James Ray Smith Pump Service		
Directions:	from Lawrence: .5 mi N		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12116		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
46	SSE	0.87	4,593.80	867.14	WATER WELLS

Well ID:	347576	County:	Douglas
Well K ID:	1040466148	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	36
Plugged Date:	05-Nov-1991	Spot:	W2 NE NE NE
Well Depth:	16	Longitude:	-95.2431906
Well Use:	Domestic	Latitude:	38.9706587
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2434408
Est Yield:		NAD83 Latitude:	38.9706608
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	
Contam Source Dist:			
Driller:	W.A. Dunbar and Son, Inc		
Directions:	701 Indiana Street, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347576		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
50	S	0.89	4,708.03	959.82	WATER WELLS

Well ID:	428051	County:	Douglas
Well K ID:	1044009739	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	561	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	16-Sep-2009	Spot:	SW NE NW
Well Depth:	180	Longitude:	-95.2542622
Well Use:	Heat Pump (Closed Loop/Disposal), Geothermal	Latitude:	38.968794
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2545127
Est Yield:		NAD83 Latitude:	38.9687962

Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Sabtini, Dan
Contam Source Dist:			
Driller:	Evans Energy Development, Inc.		
Directions:	1600 W 8th Terr, Lawrence (eight 180-foot bores)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=428051		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
51	ENE	0.89	4,720.69	821.64	WATER WELLS

Well ID:	411616	County:	Douglas
Well K ID:	1040508416	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	16.55	Longitude:	-95.2351344
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9852198
Static Depth:		Long Lat Type:	GPS
Elev:	821.75	NAD83 Longitude:	-95.235389
Est Yield:		NAD83 Latitude:	38.985222
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411616		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
51	ENE	0.89	4,720.69	821.64	WATER WELLS

Well ID:	392560	County:	Douglas
Well K ID:	1040508416	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	18	Longitude:	-95.2351273
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9852143
Static Depth:	13.9	Long Lat Type:	GPS
Elev:	821.75	NAD83 Longitude:	-95.235383
Est Yield:		NAD83 Latitude:	38.985217
Contam Source Type:		Scanned:	Yes

Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392560		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	ENE	0.90	4,761.28	819.65	WATER WELLS

Well ID:	392559	County:	Douglas
Well K ID:	1040507979	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	17	Longitude:	-95.2349461
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850806
Static Depth:	13.11	Long Lat Type:	GPS
Elev:	820.8	NAD83 Longitude:	-95.2352
Est Yield:		NAD83 Latitude:	38.985083
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392559		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
53	ENE	0.90	4,761.28	819.65	WATER WELLS

Well ID:	411615	County:	Douglas
Well K ID:	1044010308	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NW
Well Depth:	15.03	Longitude:	-95.2349391
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850806
Static Depth:		Long Lat Type:	GPS
Elev:	820.8	NAD83 Longitude:	-95.235194
Est Yield:		NAD83 Latitude:	38.985083
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC

Contam Source Dist:
Driller: Larsen and Associates, Inc.
Directions: 739 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411615

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
54	E	0.91	4,794.28	817.65	WATER WELLS

Well ID:	392577	County:	Douglas
Well K ID:	1040508801	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	16	Longitude:	-95.2347452
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9847959
Static Depth:	10.11	Long Lat Type:	GPS
Elev:	817.58	NAD83 Longitude:	-95.235
Est Yield:		NAD83 Latitude:	38.9848
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC

Contam Source Dist:
Driller: Larsen and Associates, Inc.
Directions: 739 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392577

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
54	E	0.91	4,794.28	817.65	WATER WELLS

Well ID:	411776	County:	Douglas
Well K ID:	1040508799	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.2	Longitude:	-95.2347453
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9848041
Static Depth:		Long Lat Type:	GPS
Elev:	817.58	NAD83 Longitude:	-95.235
Est Yield:		NAD83 Latitude:	38.984806
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors LLC

Contam Source Dist:

Driller: Larsen and Associates, Inc.
Directions: 739 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411776

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
55	ENE	0.92	4,839.74	817.85	WATER WELLS

Well ID:	392557	County:	Douglas
Well K ID:	1040507975	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	17	Longitude:	-95.2346355
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9849968
Static Depth:	11.55	Long Lat Type:	GPS
Elev:	819.03	NAD83 Longitude:	-95.234889
Est Yield:		NAD83 Latitude:	38.985
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			

Driller: Larsen and Associates, Inc.
Directions: 739 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392557

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
55	ENE	0.92	4,839.74	817.85	WATER WELLS

Well ID:	411613	County:	Douglas
Well K ID:	1044010348	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.3	Longitude:	-95.2346355
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9849968
Static Depth:		Long Lat Type:	GPS
Elev:	819.03	NAD83 Longitude:	-95.234889
Est Yield:		NAD83 Latitude:	38.985
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			

Driller: Larsen and Associates, Inc.

Directions: 739 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411613

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
56	SSW	0.92	4,851.89	1,019.98	WATER WELLS

Well ID:	347584	County:	Douglas
Well K ID:	1040466164	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:	2412263	Range:	19
Contractors Lic No:	531	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	06-Jun-1997	Spot:	SE NW NW
Well Depth:	12.5	Longitude:	-95.2565914
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687834
Static Depth:	9.9	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2568419
Est Yield:		NAD83 Latitude:	38.9687856
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Geotechnical Services, Inc.		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347584		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
56	SSW	0.92	4,851.89	1,019.98	WATER WELLS

Well ID:	115071	County:	Douglas
Well K ID:	1040389595	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	531	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	06-Jun-1997	Spot:	SE NW NW
Well Depth:	0	Longitude:	-95.2565914
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687834
Static Depth:	9.9	Long Lat Type:	From PLSS
Elev:	12.5	NAD83 Longitude:	-95.2568419
Est Yield:		NAD83 Latitude:	38.9687856
Contam Source Type:	Fuel storage	Scanned:	NO
Contam Source Dir:	N	Owner:	Total Petroleum Inc.
Contam Source Dist:	150		
Driller:	Geotechnical Services, Inc.		
Directions:	2005 WEST 9TH, LAWRENCE		

Wells and Additional Sources Detail Report

URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=115071

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	ENE	0.92	4,862.77	817.90	WATER WELLS

Well ID:	392558	County:	Douglas
Well K ID:	1040507977	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	19	Longitude:	-95.2346136
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9851973
Static Depth:	11.5	Long Lat Type:	GPS
Elev:	819.05	NAD83 Longitude:	-95.234867
Est Yield:		NAD83 Latitude:	38.9852
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392558		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
57	ENE	0.92	4,862.77	817.90	WATER WELLS

Well ID:	411614	County:	Douglas
Well K ID:	1044010349	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	17.45	Longitude:	-95.2346065
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9851918
Static Depth:		Long Lat Type:	GPS
Elev:	819.05	NAD83 Longitude:	-95.234861
Est Yield:		NAD83 Latitude:	38.985194
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411614		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
60	ENE	0.93	4,905.77	817.77	WATER WELLS

Well ID:	392576	County:	Douglas
Well K ID:	1040508799	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Jul-2006	Spot:	NE NE NW
Well Depth:	18	Longitude:	-95.2344959
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9853296
Static Depth:	10.21	Long Lat Type:	GPS
Elev:	817.77	NAD83 Longitude:	-95.23475
Est Yield:		NAD83 Latitude:	38.985333
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392576		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
60	ENE	0.93	4,905.77	817.77	WATER WELLS

Well ID:	411622	County:	Douglas
Well K ID:	1040508801	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.46	Longitude:	-95.2344959
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9853296
Static Depth:		Long Lat Type:	GPS
Elev:	817.77	NAD83 Longitude:	-95.23475
Est Yield:		NAD83 Latitude:	38.985333
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411622		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
62	ENE	0.94	4,960.75	818.13	WATER WELLS

Well ID:	392578	County:	Douglas
Well K ID:	1044010347	Township:	12
Other ID:	MW 7	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	21-Aug-2006	Spot:	NE NE NW
Well Depth:	18	Longitude:	-95.2342141
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.985048
Static Depth:	10.89	Long Lat Type:	GPS
Elev:	817.94	NAD83 Longitude:	-95.234467
Est Yield:		NAD83 Latitude:	38.98505
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=392578		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
64	ENE	0.95	5,040.64	817.93	WATER WELLS

Well ID:	402302	County:	Douglas
Well K ID:	1040518238	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	27-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2340254
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9853865
Static Depth:	12.41	Long Lat Type:	GPS
Elev:	818.23	NAD83 Longitude:	-95.234278
Est Yield:		NAD83 Latitude:	38.985389
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041346)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402302		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
65	ENE	0.96	5,049.91	815.58	WATER WELLS

Well ID:	402299	County:	Douglas
Well K ID:	1040520319	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2338868
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850246
Static Depth:	12.73	Long Lat Type:	GPS
Elev:	818.29	NAD83 Longitude:	-95.234139
Est Yield:		NAD83 Latitude:	38.985028
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041353)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402299		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
66	ENE	0.96	5,061.21	817.50	WATER WELLS

Well ID:	402295	County:	Douglas
Well K ID:	1040522306	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2338852
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9851647
Static Depth:		Long Lat Type:	GPS
Elev:	818.4	NAD83 Longitude:	-95.234138
Est Yield:		NAD83 Latitude:	38.985167
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041345)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402295		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	SSW	0.96	5,078.68	991.45	WATER WELLS

Well ID:	347589	County:	Douglas
Well K ID:	1040466174	Township:	12
Other ID:	MW 02	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	566	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	23-Sep-1993	Spot:	SW NW NW
Well Depth:	11	Longitude:	-95.2589206
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687729
Static Depth:	6.43	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2591712
Est Yield:		NAD83 Latitude:	38.968775
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Anderson Engineering		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347589		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	SSW	0.96	5,078.68	991.45	WATER WELLS

Well ID:	347591	County:	Douglas
Well K ID:	1040466178	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:	2412263	Range:	19
Contractors Lic No:	531	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	06-Jun-1997	Spot:	SW NW NW
Well Depth:	10	Longitude:	-95.2589206
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687729
Static Depth:	8.3	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2591712
Est Yield:		NAD83 Latitude:	38.968775
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Geotechnical Services, Inc.		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347591		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	SSW	0.96	5,078.68	991.45	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	347587	County:	Douglas
Well K ID:	1040466170	Township:	12
Other ID:	MW 01	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	566	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	23-Sep-1993	Spot:	SW NW NW
Well Depth:	12.5	Longitude:	-95.2589206
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687729
Static Depth:	6.03	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2591712
Est Yield:		NAD83 Latitude:	38.968775
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Anderson Engineering		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347587		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	SSW	0.96	5,078.68	991.45	WATER WELLS

Well ID:	347586	County:	Douglas
Well K ID:	1040466168	Township:	12
Other ID:	MW 04	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	566	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	24-Sep-1993	Spot:	SW NW NW
Well Depth:	14.5	Longitude:	-95.2589206
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687729
Static Depth:	11.6	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2591712
Est Yield:		NAD83 Latitude:	38.968775
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Anderson Engineering		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347586		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
67	SSW	0.96	5,078.68	991.45	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	347585	County:	Douglas
Well K ID:	1040466166	Township:	12
Other ID:	MW 03	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	566	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	23-Sep-1993	Spot:	SW NW NW
Well Depth:	10	Longitude:	-95.2589206
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9687729
Static Depth:	8.73	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2591712
Est Yield:		NAD83 Latitude:	38.968775
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Total Petroleum Inc.
Contam Source Dist:			
Driller:	Anderson Engineering		
Directions:	2005 W 9th, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347585		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424626	County:	Douglas
Well K ID:	1040660279	Township:	12
Other ID:	SVE 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW
Well Depth:	12	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424626		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Wells and Additional Sources Detail Report

Well ID:	424618	County:	Douglas
Well K ID:	1040660275	Township:	12
Other ID:	AS 7	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424618		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	417406	County:	Douglas
Well K ID:	1040542287	Township:	12
Other ID:	MW 13	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	07-Jul-2008	Spot:	SW SE SE SW
Well Depth:	15	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=417406		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424624	County:	Douglas

Wells and Additional Sources Detail Report

Well K ID:	1040660290	Township:	12
Other ID:	AS 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424624		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424619	County:	Douglas
Well K ID:	1040660277	Township:	12
Other ID:	AS 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424619		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	417404	County:	Douglas
Well K ID:	1040542757	Township:	12

Other ID:	MW 11	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	07-Jul-2008	Spot:	SW SE SE SW
Well Depth:	15	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=417404		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424616	County:	Douglas
Well K ID:	1040660305	Township:	12
Other ID:	AS 9	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424616		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424622	County:	Douglas
Well K ID:	1040660266	Township:	12
Other ID:	AS 3	Twn Dir:	S

Wells and Additional Sources Detail Report

DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424622		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	417405	County:	Douglas
Well K ID:	1040542996	Township:	12
Other ID:	MW 12	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	07-Jul-2008	Spot:	SW SE SE SW
Well Depth:	15	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=417405		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424621	County:	Douglas
Well K ID:	1040660264	Township:	12
Other ID:	AS 4	Twn Dir:	S
DWR No:		Range:	20

Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424621		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424620	County:	Douglas
Well K ID:	1040660288	Township:	12
Other ID:	AS 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424620		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424617	County:	Douglas
Well K ID:	1040660273	Township:	12
Other ID:	AS 8	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E

Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424617		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424625	County:	Douglas
Well K ID:	1040660293	Township:	12
Other ID:	SVE 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW
Well Depth:	12	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424625		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	417403	County:	Douglas
Well K ID:	1040542285	Township:	12
Other ID:	MW 10	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19

Plugged Date:	07-Jul-2008	Spot:	SW SE SE SW
Well Depth:	15	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=417403		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424623	County:	Douglas
Well K ID:	1040660309	Township:	12
Other ID:	AS 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	24-Nov-2008	Spot:	SW SE SE SW
Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424623		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
68	ENE	0.96	5,083.97	818.35	WATER WELLS

Well ID:	424615	County:	Douglas
Well K ID:	1040660303	Township:	12
Other ID:	AS 10	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	19
Plugged Date:	25-Nov-2008	Spot:	SW SE SE SW

Well Depth:	25	Longitude:	-95.2342493
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9864436
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2344993
Est Yield:		NAD83 Latitude:	38.9864454
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	903 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424615		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
70	SSW	0.97	5,107.46	1,003.53	WATER WELLS

Well ID:	487378	County:	Douglas
Well K ID:	1045029762	Township:	12
Other ID:	TMW 9	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	05-Mar-2015	Spot:	SW NW NW
Well Depth:	10.5	Longitude:	-95.2599417
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.969057
Static Depth:	7.79	Long Lat Type:	GPS
Elev:	1002.82	NAD83 Longitude:	-95.260198
Est Yield:		NAD83 Latitude:	38.96906
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Sinclair Marketing, Inc
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	804 Iowa St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=487378		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424519	County:	Douglas
Well K ID:	1040520319	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	18.85	Longitude:	-95.2336737

Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424519		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424538	County:	Douglas
Well K ID:	1044010347	Township:	12
Other ID:	EXMW 7 (formerly MW 7)	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	17.3	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil/PDO Investors, LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424538		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411777	County:	Douglas
Well K ID:	1044010352	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.45	Longitude:	-95.2336737
Well Use:	Monitoring	Latitude:	38.9850942

	well/observation/piezometer		
Static Depth:		Long Lat Type:	From PLSS
Elev:	817.77	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	
Contam Source Type:		Scanned:	YES
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411777		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411775	County:	Douglas
Well K ID:	1044010351	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	16.55	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:	821.75	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	
Contam Source Type:		Scanned:	YES
Contam Source Dir:		Owner:	PDO Investors
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411775		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424526	County:	Douglas
Well K ID:	1040528447	Township:	12
Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	14.58	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942

Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424526		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424521	County:	Douglas
Well K ID:	1040518238	Township:	12
Other ID:	MW 4	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	18.65	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424521		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424523	County:	Douglas
Well K ID:	1040517509	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	18.95	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS

Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424523		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411774	County:	Douglas
Well K ID:	1040507979	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.05	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:	820.8	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	
Contam Source Type:		Scanned:	YES
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411774		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424522	County:	Douglas
Well K ID:	1040517507	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	19.2	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238

Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424522		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424520	County:	Douglas
Well K ID:	1040516629	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	16.65	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424520		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411773	County:	Douglas
Well K ID:	1040507977	Township:	12
Other ID:	MW 2	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	17.45	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:	819.05	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	

Contam Source Type:		Scanned:	YES
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411773		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411621	County:	Douglas
Well K ID:	1044010350	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.2	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:	817.58	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	
Contam Source Type:		Scanned:	YES
Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411621		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	411772	County:	Douglas
Well K ID:	1040507975	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	20-Feb-2008	Spot:	NE NE NW
Well Depth:	15.3	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:	819.03	NAD83 Longitude:	
Est Yield:		NAD83 Latitude:	
Contam Source Type:		Scanned:	YES

Contam Source Dir:		Owner:	PDO Investors LLC
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	739 N 2nd St, Lawrence		
URL:	http://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=411772		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424524	County:	Douglas
Well K ID:	1040517439	Township:	12
Other ID:	MW 7	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	18.6	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424524		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424528	County:	Douglas
Well K ID:	1040524439	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	12.37	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil

Contam Source Dist:
Driller: Larsen and Associates, Inc.
Directions: 740 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424528

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
71	ENE	0.97	5,114.45	812.82	WATER WELLS

Well ID:	424518	County:	Douglas
Well K ID:	1040522306	Township:	12
Other ID:	MW 1	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	13-Mar-2009	Spot:	NE NE NW
Well Depth:	19.37	Longitude:	-95.2336737
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9850942
Static Depth:		Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2339238
Est Yield:		NAD83 Latitude:	38.985096
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			

Driller: Larsen and Associates, Inc.
Directions: 740 N 2nd St, Lawrence
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=424518

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
72	ESE	0.97	5,114.60	789.27	WATER WELLS

Well ID:	455106	County:	Douglas
Well K ID:	1044051669	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	509	Range Dir:	E
Status:	PLUGGED	Section:	30
Plugged Date:	18-Apr-2012	Spot:	NE SW
Well Depth:	46	Longitude:	-95.2346475
Well Use:	Dewatering	Latitude:	38.9761975
Static Depth:		Long Lat Type:	GPS
Elev:	800	NAD83 Longitude:	-95.2349
Est Yield:		NAD83 Latitude:	38.9762
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Bowersock Mills and Power Co
Contam Source Dist:			

Driller: Griffin Dewatering North Central, LLC
Directions: SE corner of 2nd St and Elm St, Lawrence (five bores)
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=455106

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
72	ESE	0.97	5,114.60	789.27	WATER WELLS

Well ID:	451272	County:	Douglas
Well K ID:	1044051669	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	509	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	08-Aug-2011	Spot:	NE SW
Well Depth:	46	Longitude:	-95.2346475
Well Use:	Dewatering	Latitude:	38.9761975
Static Depth:		Long Lat Type:	GPS
Elev:	800	NAD83 Longitude:	-95.2349
Est Yield:		NAD83 Latitude:	38.9762
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Bowersock Mills and Power Co
Contam Source Dist:			

Driller: Griffin Dewatering North Central, LLC
Directions: SE corner of 2nd St and Elm St, Lawrence (five bores)
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=451272

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
73	E	0.97	5,117.32	809.54	WATER WELLS

Well ID:	402304	County:	Douglas
Well K ID:	1040517509	Township:	12
Other ID:	MW 6	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	27-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2336367
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9849955
Static Depth:	11	Long Lat Type:	GPS
Elev:	816.38	NAD83 Longitude:	-95.233889
Est Yield:		NAD83 Latitude:	38.985
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			

Driller: Larsen and Associates, Inc.

Directions: 740 N 2nd St, Lawrence (well tag 0041351)
URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402304

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
74	ENE	0.97	5,118.53	812.82	WATER WELLS

Well ID:	402303	County:	Douglas
Well K ID:	1040517507	Township:	12
Other ID:	MW 5	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	26-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2336628
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9851079
Static Depth:	12.53	Long Lat Type:	GPS
Elev:	817.9	NAD83 Longitude:	-95.233917
Est Yield:		NAD83 Latitude:	38.985111
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041352)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402303		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
75	ENE	0.98	5,164.50	808.60	WATER WELLS

Well ID:	402300	County:	Douglas
Well K ID:	1040516629	Township:	12
Other ID:	MW 3	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	27-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2334976
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9851086
Static Depth:	11.23	Long Lat Type:	GPS
Elev:	816.73	NAD83 Longitude:	-95.23375
Est Yield:		NAD83 Latitude:	38.985111
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041348)		

Wells and Additional Sources Detail Report

URL: https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402300

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
76	ESE	0.98	5,197.16	823.43	WATER WELLS

Well ID:	12244	County:	Douglas
Well K ID:	1040094385	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	516	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	14-Sep-1990	Spot:	NE NE SW
Well Depth:	16.6	Longitude:	-95.2336001
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9779006
Static Depth:	11.3	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2338502
Est Yield:		NAD83 Latitude:	38.9779027
Contam Source Type:	Fuel storage	Scanned:	Yes
Contam Source Dir:		Owner:	Zeller, Leonard J.
Contam Source Dist:	0		
Driller:	Forrest E. Erickson, Geo Systems Engineering, Inc.		
Directions:	Lot 1, N Lawrence Addition		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=12244		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
77	ENE	0.99	5,216.83	810.92	WATER WELLS

Well ID:	402305	County:	Douglas
Well K ID:	1040517439	Township:	12
Other ID:	MW 7	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	27-Feb-2007	Spot:	NE NE NW
Well Depth:	20	Longitude:	-95.2333556
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.985274
Static Depth:	12.53	Long Lat Type:	GPS
Elev:	818.04	NAD83 Longitude:	-95.233611
Est Yield:		NAD83 Latitude:	38.985278
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence (well tag 0041350)		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=402305		

Wells and Additional Sources Detail Report

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
78	ESE	0.99	5,243.10	824.11	WATER WELLS

Well ID:	347694	County:	Douglas
Well K ID:	1040467387	Township:	12
Other ID:		Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:		Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	07-Mar-1963	Spot:	S2 NE NE SW
Well Depth:	56	Longitude:	-95.2335955
Well Use:	Domestic	Latitude:	38.977451
Static Depth:	28	Long Lat Type:	From PLSS
Elev:		NAD83 Longitude:	-95.2338456
Est Yield:	25	NAD83 Latitude:	38.9774531
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Billings, M.J.
Contam Source Dist:			
Driller:	Breuer Drilling Co.		
Directions:			
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=347694		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
79	ENE	0.99	5,243.25	815.16	WATER WELLS

Well ID:	408919	County:	Douglas
Well K ID:	1040524439	Township:	12
Other ID:	MW 9	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	01-Nov-2007	Spot:	NE NE NW
Well Depth:	15	Longitude:	-95.2332755
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9853265
Static Depth:	8.59	Long Lat Type:	GPS
Elev:	816.78	NAD83 Longitude:	-95.23353
Est Yield:		NAD83 Latitude:	38.98533
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=408919		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
79	ENE	0.99	5,243.25	815.16	WATER WELLS

Well ID:	408917	County:	Douglas
Well K ID:	1040528447	Township:	12
Other ID:	MW 8	Twn Dir:	S
DWR No:		Range:	20
Contractors Lic No:	757	Range Dir:	E
Status:	CONSTRUCTED	Section:	30
Plugged Date:	01-Nov-2007	Spot:	NE NE NW
Well Depth:	15	Longitude:	-95.2332755
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9853265
Static Depth:	7.93	Long Lat Type:	GPS
Elev:	815.85	NAD83 Longitude:	-95.23353
Est Yield:		NAD83 Latitude:	38.98533
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Capital City Oil
Contam Source Dist:			
Driller:	Larsen and Associates, Inc.		
Directions:	740 N 2nd St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=408917		

Map Key	Direction	Distance (mi)	Distance (ft)	Elevation (ft)	DB
81	SSW	1.00	5,268.09	1,000.42	WATER WELLS

Well ID:	489639	County:	Douglas
Well K ID:	1045072275	Township:	12
Other ID:	MW 15	Twn Dir:	S
DWR No:		Range:	19
Contractors Lic No:	759	Range Dir:	E
Status:	CONSTRUCTED	Section:	36
Plugged Date:	21-Apr-2015	Spot:	SW NW NW
Well Depth:	15	Longitude:	-95.2591538
Well Use:	Monitoring well/observation/piezometer	Latitude:	38.9682852
Static Depth:	8.5	Long Lat Type:	GPS
Elev:	996.97	NAD83 Longitude:	-95.25941
Est Yield:		NAD83 Latitude:	38.96829
Contam Source Type:		Scanned:	Yes
Contam Source Dir:		Owner:	Swanson, Kent/ELR LLC
Contam Source Dist:			
Driller:	Razek Environmental, LLC		
Directions:	2005 W 9th St, Lawrence		
URL:	https://chasm.kgs.ku.edu/ords/wwc5.wwc5d2.well_details?well_id=489639		

Radon Information

This section lists any relevant radon information found for the target property.

Federal EPA Radon Zone for *DOUGLAS* County: **1**

Zone 1: Counties with predicted average indoor radon screening levels greater than 4 pCi/L
Zone 2: Counties with predicted average indoor radon screening levels from 2 to 4 pCi/L
Zone 3: Counties with predicted average indoor radon screening levels less than 2 pCi/L

Federal Area Radon Information for *DOUGLAS* County

No Measures/Homes:	36
Geometric Mean:	1.6
Arithmetic Mean:	2.6
Median:	2
Standard Deviation:	2.5
Maximum:	12.9
% >4 pCi/L:	19
% >20 pCi/L:	0
Notes on Data Table:	TABLE 1. Screening indoor radon data from the EPA/State Residential Radon Survey of Kansas conducted during 1986-87. Data represent 2-7 day charcoal canister measurements from the lowest level of each home ested.

Appendix

Federal Sources

FEMA National Flood Hazard Layer — **FEMA FLOOD**

The National Flood Hazard Layer (NFHL) data incorporates Flood Insurance Rate Map (FIRM) databases published by the Federal Emergency Management Agency (FEMA), and any Letters Of Map Revision (LOMRs) that have been issued against those databases since their publication date. The FIRM Database is the digital, geospatial version of the flood hazard information shown on the published paper FIRMs. The FIRM Database depicts flood risk information and supporting data used to develop the risk data. The FIRM Database is derived from Flood Insurance Studies (FISs), previously published FIRMs, flood hazard analyses performed in support of the FISs and FIRMs, and new mapping data, where available.

Indoor Radon Data — **INDOOR RADON**

Indoor radon measurements tracked by the Environmental Protection Agency(EPA) and the State Residential Radon Survey.

Public Water Systems Violations and Enforcement Data — **PWSV**

List of drinking water violations and enforcement actions from the Safe Drinking Water Information System (SDWIS) made available by the Drinking Water Protection Division of the US EPA's Office of Groundwater and Drinking Water. Enforcement sensitive actions are not included in the data released by the EPA. Address information provided in SWDIS may correspond either with the physical location of the water system, or with a contact address.

Radon Zone Level — **RADON ZONE**

Areas showing the level of Radon Zones (level 1, 2 or 3) by county. This data is maintained by the Environmental Protection Agency (EPA).

Safe Drinking Water Information System (SDWIS) — **SDWIS**

The Safe Drinking Water Information System (SDWIS) contains information about public water systems as reported to US Environmental Protection Agency (EPA) by the states. Addresses may correspond with the location of the water system, or with a contact address.

Soil Survey Geographic database — **SSURGO**

The Soil Survey Geographic database (SSURGO) contains information about soil as collected by the National Cooperative Soil Survey at the Natural Resources Conservation Service (NRCS). Soil maps outline areas called map units. The map units are linked to soil properties in a database. Each map unit may contain one to three major components and some minor components.

U.S. Fish & Wildlife Service Wetland Data — **US WETLAND**

The U.S. Fish & Wildlife Service Wetland layer represents the approximate location and type of wetlands and deepwater habitats in the United States.

USGS Current Topo — **US TOPO**

US Topo topographic maps are produced by the National Geospatial Program of the U.S. Geological Survey (USGS). The project was launched in late 2009, and the term "US Topo" refers specifically to quadrangle topographic maps published in 2009 and later.

USGS Geology — **US GEOLOGY**

Seamless maps depicting geological information provided by the United States Geological Survey (USGS).

USGS National Water Information System — **FED USGS**

The U.S. Geological Survey (USGS)'s National Water Information System (NWIS) is the nation's principal repository of water resources data. This database includes comprehensive information of well-construction details, time-series data for gage height, streamflow, groundwater level, and precipitation and water use data.

State Sources

Oil and Gas Wells — **OGW**

List of Oil and Gas well records in Kansas made available by the Kansas Geological Survey.

Appendix

Water Well Completion Records Database **WATER WELLS**

The Water Well Completion Records (WWC5) is provided by Kansas Geological Survey.

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Reliance on information in Report: The Physical Setting Report (PSR) DOES NOT replace a full Phase I Environmental Site Assessment but is solely intended to be used as a review of environmental databases and physical characteristics for the site or adjacent properties.

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F. ENVIRONMENTAL DATABASE REPORT

DATABASE REPORT

Project Property:	*Two Parcels* *105 Michigan St* *Lawrence KS 66044*
Project No:	*13008*
Report Type:	*Database Report*
Order No:	*22041201154*
Requested by:	*Solid Ground Environmental*
Date Completed:	*April 14, 2022*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Table of Contents

Executive Summary

Property Information:

Project Property:		*Two Parcels* *105 Michigan St Lawrence KS 66044*
Project No:		*13008*
Coordinates:		
	Latitude:	*38.98186225*
	Longitude:	*-95.25156585*
	UTM Northing:	*4,317,175.14*
	UTM Easting:	*304,972.62*
	UTM Zone:	*UTM Zone 15S*
Elevation:		*853 FT*

Order Information:

Order No:	*22041201154*
Date Requested:	*April 12, 2022*
Requested by:	*Solid Ground Environmental*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (with Project Boundaries)*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*Physical Setting Report (PSR)*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
DOE FUSRAP	Y	1	0	0	0	0	0	0
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	0.5	0	0	0	0	-	0
SEMS	Y	0.5	0	0	0	0	-	0
ODI	Y	0.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	0.5	0	0	0	0	-	0
CERCLIS	Y	0.5	0	0	0	0	-	0
IODI	Y	0.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	0.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	0.5	0	0	0	0	-	0
RCRA LQG	Y	0.25	0	0	0	-	-	0
RCRA SQG	Y	0.25	0	0	0	-	-	0
RCRA VSQG	Y	0.25	0	0	**1**	-	-	**1**
RCRA NON GEN	Y	0.25	0	0	**1**	-	-	**1**
RCRA CONTROLS	Y	0.5	0	0	0	0	-	0
FED ENG	Y	0.5	0	0	0	0	-	0
FED INST	Y	0.5	0	0	0	0	-	0
LUCIS	Y	0.5	0	0	0	0	-	0
NPL IC	Y	0.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	0.5	0	0	0	0	-	0
FEMA UST	Y	0.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
FRP	Y	0.25	0	0	0	-	-	0
HIST GAS STATIONS	Y	0.25	0	0	0	-	-	0
REFN	Y	0.25	0	0	0	-	-	0
BULK TERMINAL	Y	0.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0
State								
SHWS	Y	1	0	0	**1**	0	**1**	**2**
DELISTED SHWS	Y	1	0	0	0	0	0	0
SWF/LF	Y	0.5	0	0	0	0	-	0
LUST	Y	0.5	0	0	**8**	**3**	-	**11**
LAST	Y	0.5	0	0	0	0	-	0
DELISTED LST	Y	0.5	0	0	0	0	-	0
UST	Y	0.25	0	0	**4**	-	-	**4**
AST	Y	0.25	0	0	0	-	-	0
DELISTED STORAGE TANK	Y	0.25	0	0	0	-	-	0
INST	Y	0.5	0	0	0	0	-	0
VCP	Y	0.5	0	0	0	0	-	0
BROWNFIELDS	Y	0.5	0	0	0	0	-	0
Tribal								
INDIAN LUST	Y	0.5	0	0	0	0	-	0
INDIAN UST	Y	0.25	0	0	0	-	-	0
DELISTED ILST	Y	0.5	0	0	0	0	-	0
DELISTED IUST	Y	0.25	0	0	0	-	-	0
County	***No County standard environmental record sources available for this State.***							
Additional Environmental Records								
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
PFAS TRI	Y	0.5	0	0	0	0	-	0
PFAS NPL	Y	0.5	0	0	0	0	-	0
PFAS WATER	Y	0.5	0	0	0	0	-	0
PFAS SSEHRI	Y	0.5	0	0	0	0	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
HMIRS	Y	0.125	0	0	-	-	-	0
NCDL	Y	0.125	0	0	-	-	-	0
TSCA	Y	0.125	0	0	-	-	-	0
HIST TSCA	Y	0.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	0.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED FED DRY	Y	0.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
FORMER NIKE	Y	1	0	0	0	0	0	0
PIPELINE INCIDENT	Y	PO	0	-	-	-	-	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	0.25	0	0	0	-	-	0
SMCRA	Y	1	0	0	0	0	0	0
MRDS	Y	1	0	0	0	0	0	0
URANIUM	Y	1	0	0	0	0	0	0
ALT FUELS	Y	0.25	0	0	0	-	-	0
CONSENT DECREES	Y	0.25	0	0	0	-	-	0
SSTS	Y	0.25	0	0	0	-	-	0
PCB	Y	0.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	0.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	0.25	0	0	0	-	-	0
SPILLS	Y	0.125	0	0	-	-	-	0
PFAS	Y	0.5	0	0	0	**10**	-	**10**
CDL	Y	0.125	0	0	-	-	-	0
TIER 2	Y	0.125	0	0	-	-	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental record sources available for this State.***

Database	Searched	Search Radius	Project Property	Within 0.12mi	0.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Total:			0	0	**15**	**13**	**1**	**29**

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	RCRA VSQG	LAWRENCE MEMORIAL HOSP	325 MAINE LAWRENCE KS 66044	SE	0.19 / 1,024.64	2	21
			EPA Handler ID: KS0000943613				
1	SHWS	LAWRENCE FORMER HOSPITAL SITE	325 MAINE STREET LAWRENCE KS	SE	0.19 / 1,024.64	2	33
1	LUST	Lawrence Memorial Hosp	325 Maine Lawrence KS 66044	SE	0.19 / 1,024.64	2	34
			Facility ID | Status | Discovery Dt: 06201 | Closed |				
1	LUST	Lawrence Memorial Hospital	325 Maine Lawrence KS 66044	SE	0.19 / 1,024.64	2	35
			Facility ID | Status | Discovery Dt: 06201 | Closed |				
1	UST	LAWRENCE MEMORIAL HOSPITAL	325 MAINE STREET LAWRENCE KS 66044	SE	0.19 / 1,024.64	2	35
			Facility ID: 06201 ***Tank No | Substance:*** U001 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U004 | Fuel Oil No. 1 (Cercla/CAS No: 8008-20-6 (Fire, Chronic, Acute)), U002 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U003 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))				
2	RCRA NON GEN	ALL STAR DAIRY	1800 W 2ND LAWRENCE KS 66044	WSW	0.22 / 1,138.12	21	36
			EPA Handler ID: KSD031310329				
2	LUST	All Star Dairy	1800 W 2nd Lawrence KS	WSW	0.22 / 1,138.12	21	37
			Facility ID | Status | Discovery Dt: 82127 | Closed |				
3	LUST	Usd 497, Maintenance	146 Maine Avenue Lawrence KS 66044	ESE	0.22 / 1,183.92	2	37
			Facility ID | Status | Discovery Dt: 09120 | Closed | 5/8/1997				
3	LUST	Usd 497, Maintenance	146 Maine Lawrence KS	ESE	0.22 / 1,183.92	2	38
			Facility ID | Status | Discovery Dt: 09120 | Closed | 7/23/1990				
3	UST	USD #497 MAINTENANCE SHOP	146 MAINE AVENUE LAWRENCE KS 66044	ESE	0.22 / 1,183.92	2	38
			Facility ID: 09120 ***Tank No | Substance:*** U002 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute)), U001 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))				
4	UST	DOUGLAS COUNTY AMBULANCE SERVICE	225 MAINE LAWRENCE KS 66046	ESE	0.23 / 1,210.14	1	39
			Facility ID: 27942 ***Tank No | Substance:*** U001 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))				
5	LUST	Miller Mart #420	1801 W 2nd St Lawrence KS 66044	WSW	0.23 / 1,216.27	18	39

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
			Facility ID **|** ***Status*** **|** ***Discovery Dt:*** 28282 | Monitor |				
5	UST	TRI-ANGLE 2ND STREET	1801 W 2ND ST LAWRENCE KS 66044	WSW	0.23 / 1,216.27	18	39
			Facility ID: 28282 ***Tank No*** **|** ***Substance:*** U002 | Gas Unleaded Premium (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute)), U003 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U001 | Gas Unleaded Regular (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))				
5	LUST	Tri-Angle 2nd Street	1801 W. 2ND ST. LAWRENCE KS 66044	WSW	0.23 / 1,216.27	18	40
			Facility ID **|** ***Status*** **|** ***Discovery Dt:*** 28282 | Active | 9/29/2017				
6	LUST	Douglas Co Ambulance	225 Maine Lawrence KS 66046	ESE	0.23 / 1,217.10	3	40
			Facility ID **|** ***Status*** **|** ***Discovery Dt:*** 27942 | Closed | 3/30/1990				
7	PFAS	HALLMARK CARDS INC.	SOUTH COOLING TOWER DIS KS	W	0.35 / 1,867.12	8	41
8	PFAS	LAWRENCE KAW RIVER WTP	MECHANICAL PLANT KS	ESE	0.39 / 2,070.54	7	41
8	PFAS	LAWRENCE KAW RIVER WTP	MECHANICAL PLANT KS	ESE	0.39 / 2,070.54	7	41
9	LUST	Hallmark, Lawrence	101 Mcdonald Dr Lawrence KS 66044	WNW	0.40 / 2,091.96	12	41
			Facility ID **|** ***Status*** **|** ***Discovery Dt:*** 06659 | Closed | 7/16/1996				
9	LUST	Hallmark, Lawrence	101 Mcdonald Drive Lawrence KS 66044	WNW	0.40 / 2,091.96	12	42
			Facility ID **|** ***Status*** **|** ***Discovery Dt:*** 06659 | Closed | 5/11/1996				
10	PFAS	HALLMARK CARDS INC.	FRONT GATE KS	W	0.40 / 2,111.32	10	42
11	PFAS	HALLMARK CARDS INC.	NORTH COOLING TOWER DIS KS	WNW	0.42 / 2,240.04	0	42
12	PFAS	LAWRENCE KAW RIVER WTP	FRONT GATE KS	ESE	0.43 / 2,249.78	3	43
13	PFAS	LAWRENCE KAW RIVER WTP	POINT OF INTEREST Sampling Point 002A2 KS	ESE	0.44 / 2,297.40	-9	43
14	PFAS	HALLMARK CARDS INC.	BUSINESS SITE KS	WNW	0.45 / 2,367.86	15	43

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
14	PFAS	HALLMARK CARDS INC.	BUSINESS SITE KS	WNW	0.45 / 2,367.86	15	43
15	PFAS	LAWRENCE KAW RIVER WTP	POINT OF INTEREST Sampling Point 002A3 KS	ESE	0.46 / 2,420.43	-11	44
16	LUST	Johnson Property	508 MICHIGAN STREET LAWRENCE KS 66044 ***Facility ID* | *Status* | *Discovery Dt:*** 30627 | Closed |	S	0.49 / 2,564.30	16	44
17	SHWS	SCOTCH CLEANERS	611 FLORIDA LAWRENCE KS 66044	S	0.60 / 3,153.39	27	44

Executive Summary: Summary by Data Source

Standard

Federal

RCRA VSQG - RCRA Very Small Quantity Generators List

A search of the RCRA VSQG database, dated Jan 31, 2022 has found that there are 1 RCRA VSQG site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LAWRENCE MEMORIAL HOSP	325 MAINE LAWRENCE KS 66044 ***EPA Handler ID**: KS0000943613*	SE	0.19 / 1,024.64	1

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Jan 31, 2022 has found that there are 1 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ALL STAR DAIRY	1800 W 2ND LAWRENCE KS 66044 ***EPA Handler ID**: KSD031310329*	WSW	0.22 / 1,138.12	2

State

SHWS - Identified Sites List

A search of the SHWS database, dated Jan 20, 2022 has found that there are 2 SHWS site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LAWRENCE FORMER HOSPITAL SITE	325 MAINE STREET LAWRENCE KS	SE	0.19 / 1,024.64	1
SCOTCH CLEANERS	611 FLORIDA LAWRENCE KS 66044	S	0.60 / 3,153.39	17

LUST - Leaking Underground Storage Tank Data

A search of the LUST database, dated Jul 1, 2020 has found that there are 11 LUST site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Lawrence Memorial Hospital	325 Maine Lawrence KS 66044	SE	0.19 / 1,024.64	1

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
	Facility ID* | *Status* | *Discovery Dt: *06201* | *Closed* |			
Lawrence Memorial Hosp	325 Maine Lawrence KS 66044	SE	0.19 / 1,024.64	1
	Facility ID* | *Status* | *Discovery Dt: *06201* | *Closed* |			
All Star Dairy	1800 W 2nd Lawrence KS	WSW	0.22 / 1,138.12	2
	Facility ID* | *Status* | *Discovery Dt: *82127* | *Closed* |			
Usd 497, Maintenance	146 Maine Lawrence KS	ESE	0.22 / 1,183.92	3
	Facility ID* | *Status* | *Discovery Dt: *09120* | *Closed* | *7/23/1990*			
Usd 497, Maintenance	146 Maine Avenue Lawrence KS 66044	ESE	0.22 / 1,183.92	3
	Facility ID* | *Status* | *Discovery Dt: *09120* | *Closed* | *5/8/1997*			
Tri-Angle 2nd Street	1801 W. 2ND ST. LAWRENCE KS 66044	WSW	0.23 / 1,216.27	5
	Facility ID* | *Status* | *Discovery Dt: *28282* | *Active* | *9/29/2017*			
Miller Mart #420	1801 W 2nd St Lawrence KS 66044	WSW	0.23 / 1,216.27	5
	Facility ID* | *Status* | *Discovery Dt: *28282* | *Monitor* |			
Douglas Co Ambulance	225 Maine Lawrence KS 66046	ESE	0.23 / 1,217.10	6
	Facility ID* | *Status* | *Discovery Dt: *27942* | *Closed* | *3/30/1990*			
Hallmark, Lawrence	101 Mcdonald Drive Lawrence KS 66044	WNW	0.40 / 2,091.96	9
	Facility ID* | *Status* | *Discovery Dt: *06659* | *Closed* | *5/11/1996*			
Hallmark, Lawrence	101 Mcdonald Dr Lawrence KS 66044	WNW	0.40 / 2,091.96	9
	Facility ID* | *Status* | *Discovery Dt: *06659* | *Closed* | *7/16/1996*			
Johnson Property	508 MICHIGAN STREET LAWRENCE KS 66044	S	0.49 / 2,564.30	16
	Facility ID* | *Status* | *Discovery Dt: *30627* | *Closed* |			

UST - Underground Storage Tanks

A search of the UST database, dated Feb 3, 2022 has found that there are 4 UST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
LAWRENCE MEMORIAL HOSPITAL	325 MAINE STREET LAWRENCE KS 66044	SE	0.19 / 1,024.64	1
	Facility ID: *06201* ***Tank No* | *Substance***: *U001 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U004 | Fuel Oil No. 1 (Cercla/CAS No: 8008-20-6 (Fire, Chronic, Acute)), U002 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U003 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))*			

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
USD #497 MAINTENANCE SHOP	146 MAINE AVENUE LAWRENCE KS 66044	ESE	0.22 / 1,183.92	3
	***Facility ID**: 09120* ***Tank No | Substance**: U002 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute)), U001 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))*			
DOUGLAS COUNTY AMBULANCE SERVICE	225 MAINE LAWRENCE KS 66046	ESE	0.23 / 1,210.14	4
	***Facility ID**: 27942* ***Tank No | Substance**: U001 | Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))*			
TRI-ANGLE 2ND STREET	1801 W 2ND ST LAWRENCE KS 66044	WSW	0.23 / 1,216.27	5
	***Facility ID**: 28282* ***Tank No | Substance**: U002 | Gas Unleaded Premium (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute)), U003 | Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute)), U001 | Gas Unleaded Regular (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))*			

Non Standard

State

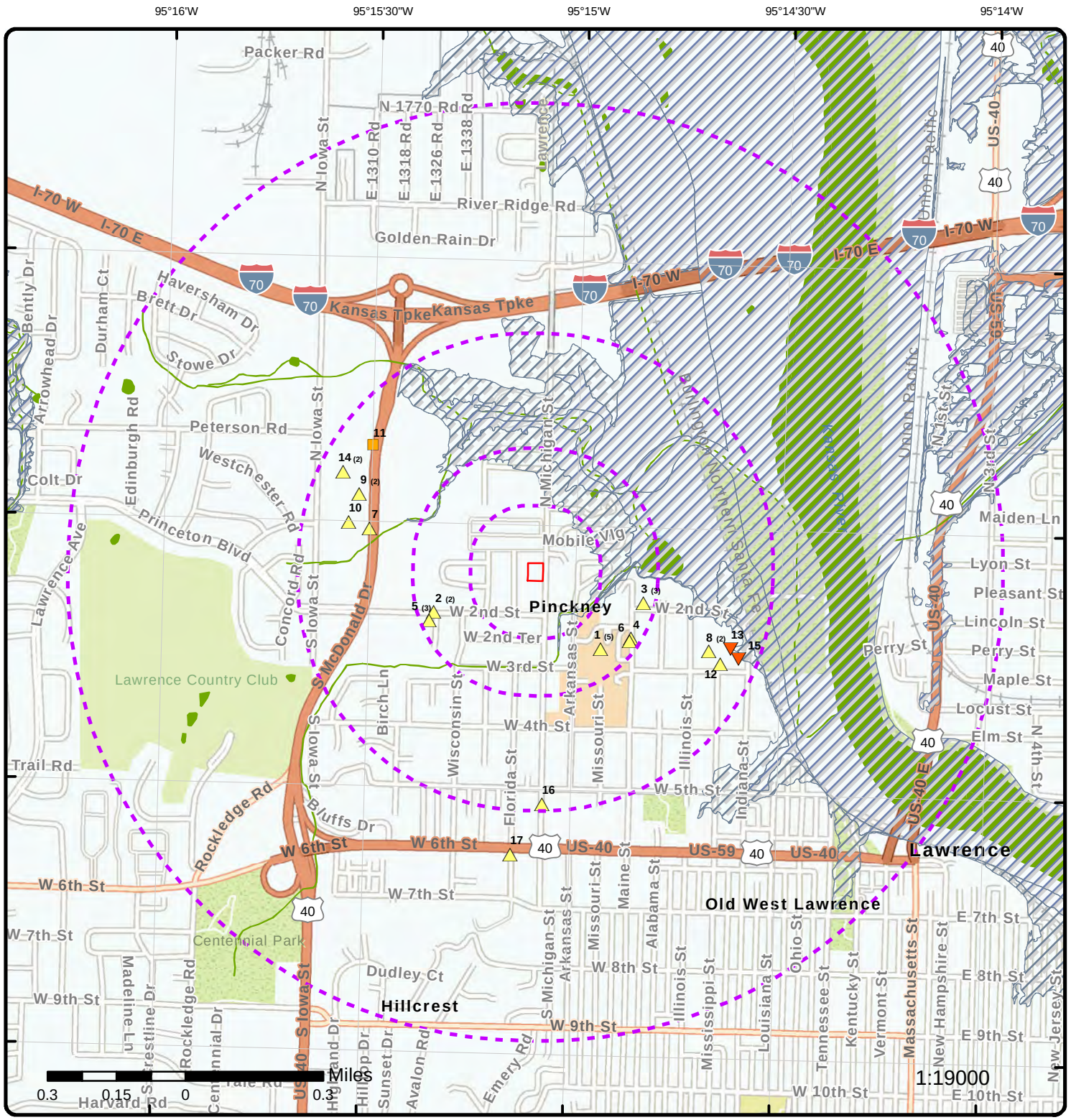
PFAS - Inventory of potential Perfluoroalkyl substances (PFAS) sites in Kansas

A search of the PFAS database, dated Jun 30, 2019 has found that there are 10 PFAS site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
HALLMARK CARDS INC.	SOUTH COOLING TOWER DIS KS	W	0.35 / 1,867.12	7
LAWRENCE KAW RIVER WTP	MECHANICAL PLANT KS	ESE	0.39 / 2,070.54	8
LAWRENCE KAW RIVER WTP	MECHANICAL PLANT KS	ESE	0.39 / 2,070.54	8
HALLMARK CARDS INC.	FRONT GATE KS	W	0.40 / 2,111.32	10
HALLMARK CARDS INC.	NORTH COOLING TOWER DIS KS	WNW	0.42 / 2,240.04	11
LAWRENCE KAW RIVER WTP	FRONT GATE KS	ESE	0.43 / 2,249.78	12

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
HALLMARK CARDS INC.	BUSINESS SITE KS	WNW	0.45 / 2,367.86	14
HALLMARK CARDS INC.	BUSINESS SITE KS	WNW	0.45 / 2,367.86	14

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
LAWRENCE KAW RIVER WTP	POINT OF INTEREST Sampling Point 002A2 KS	ESE	0.44 / 2,297.40	13
LAWRENCE KAW RIVER WTP	POINT OF INTEREST Sampling Point 002A3 KS	ESE	0.46 / 2,420.43	15

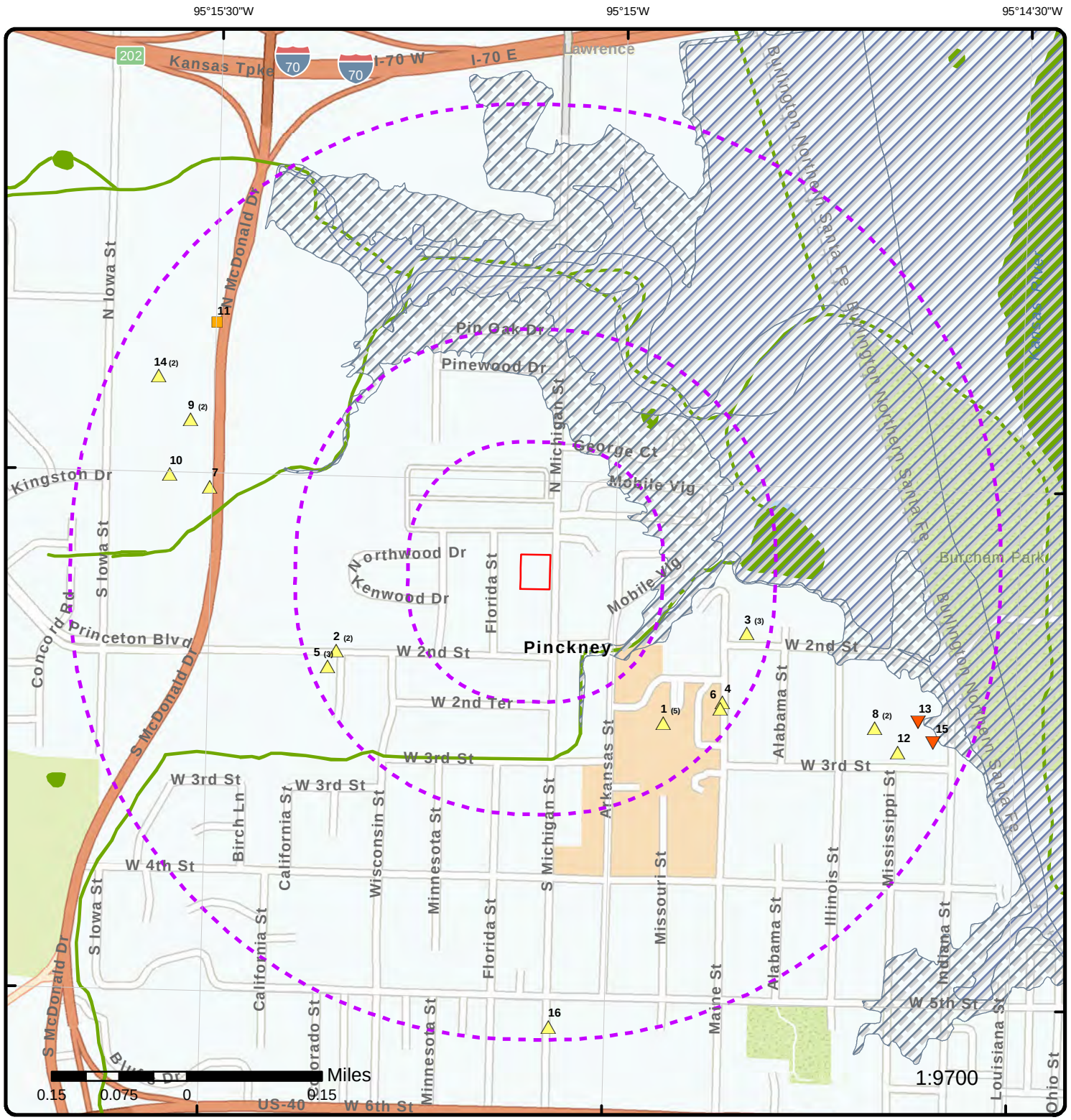


Map: 1.0 Mile Radius

Order Number: 22041201154

Address: 105 Michigan St, Lawrence, KS

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- Plume



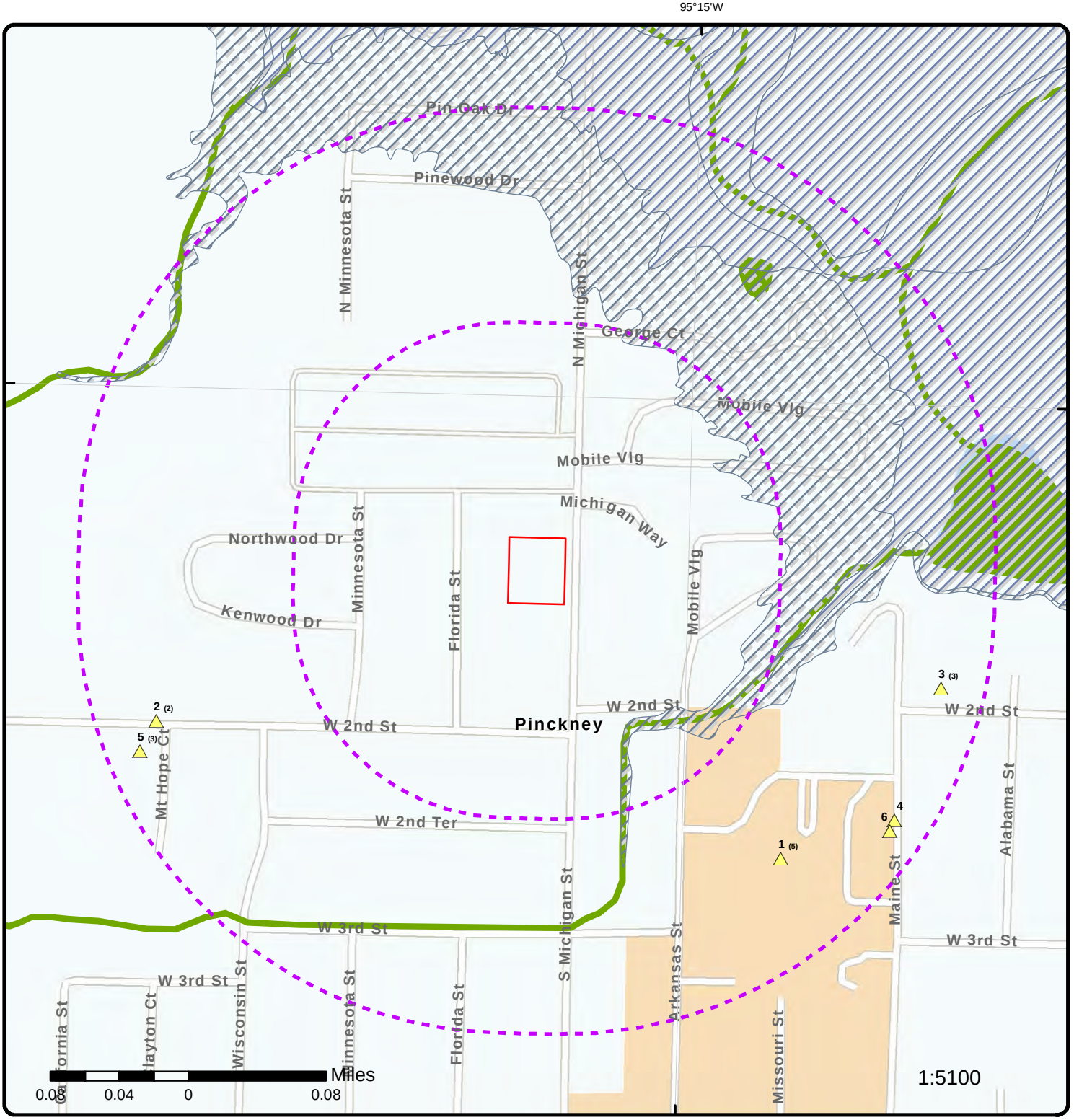
Map: 0.5 Mile Radius

Order Number: 22041201154

Address: 105 Michigan St, Lawrence, KS

ERIS

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- Plume

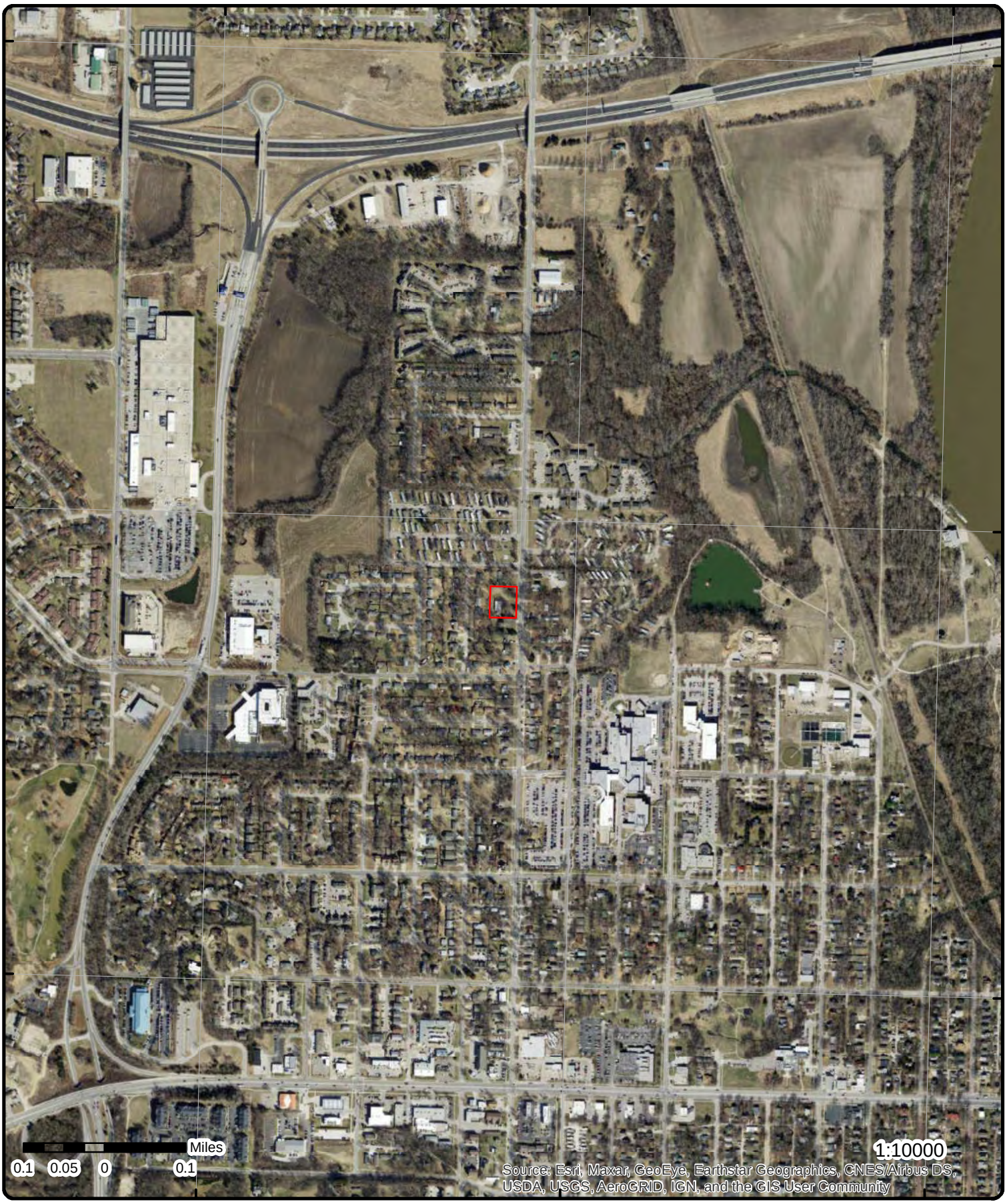


Map: 0.25 Mile Radius

Order Number: 22041201154

Address: 105 Michigan St, Lawrence, KS

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Eris Areas with Higher Elevation
- Eris Areas with Same Elevation
- Eris Areas with Lower Elevation
- Eris Areas with Unknown Elevation
- Freeways; Highways
- Traffic Circle; Ramp
- Major & Minor Arterial
- Traffic Circle; Ramp
- Local Road
- Rail
- State
- Country
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- Plume

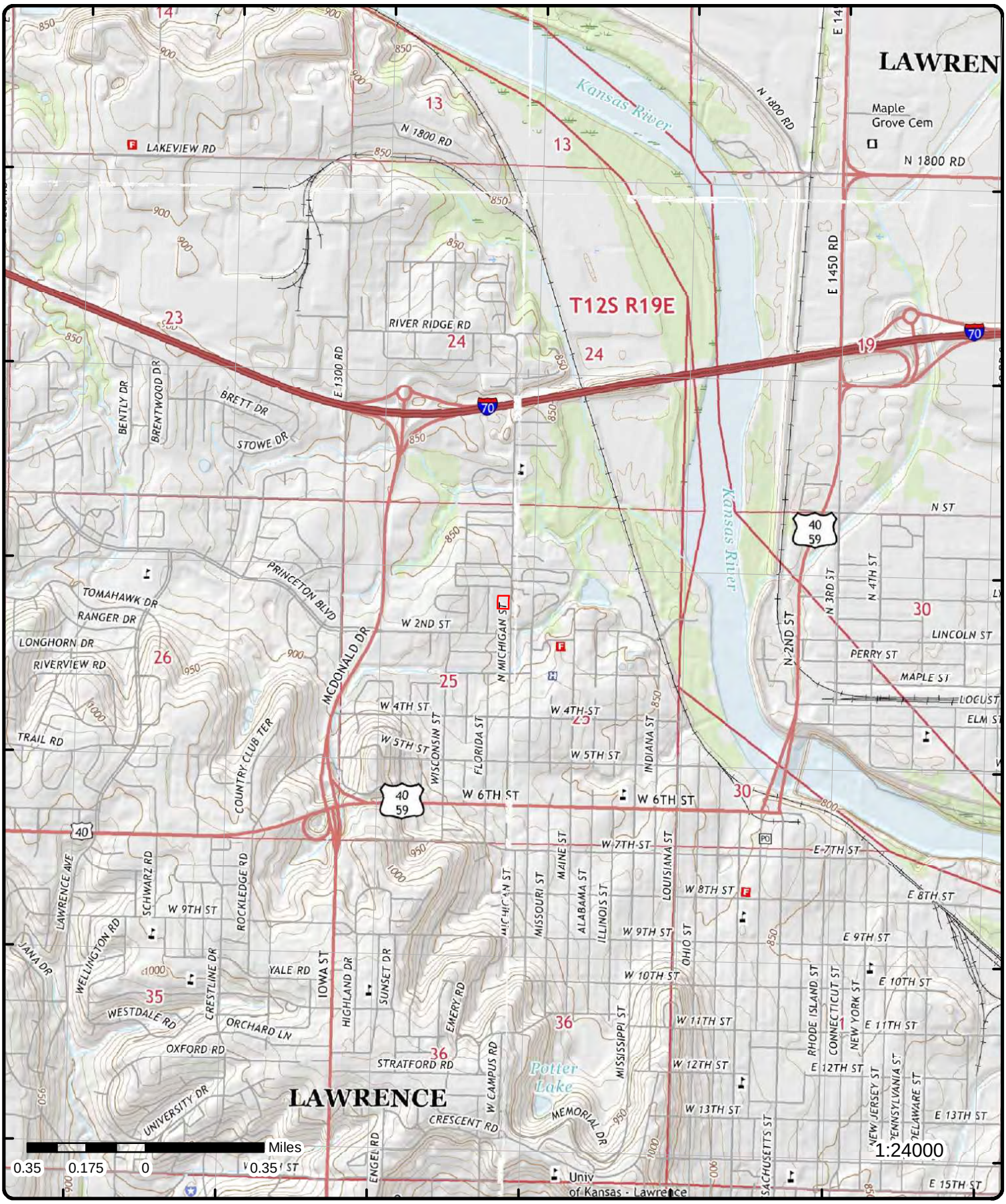


Aerial **Year: 2020**

Order Number: 22041201154

Address: 105 Michigan St, Lawrence, KS

Source: ESRI World Imagery



Topographic Map

Year: 2016

Order Number: 22041201154

Address: 105 Michigan St, KS

Quadrangle(s): Williamstown, KS; Midland, KS; Lawrence East, KS; Lawrence West, KS

Source: USGS Topographic Map

Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 5	SE	0.19 / 1,024.64	855.41 / 2	LAWRENCE MEMORIAL HOSP 325 MAINE LAWRENCE KS 66044	RCRA VSQG

EPA Handler ID: KS0000943613
Gen Status Universe: VSG
Contact Name: PAUL BAKER
Contact Address: 325 MAIN , , LAWRENCE , KS, 66044 , US
Contact Phone No and Ext: 785-749-6100
Contact Email:
Contact Country: US
County Name: DOUGLAS
EPA Region: 07
Land Type: Private
Receive Date: 20210208
Location Latitude: 38.978358
Location Longitude: -95.247649

Violation/Evaluation Summary

Note: VIOLATION or UNDETERMINED: There are VIOLATION or UNDETERMINED details or records associated with this facility (EPA ID) in the Compliance Monitoring and Enforcement table dated Jan, 2022.

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: Generators - General
Violation Type: 262.A
Violation Determined Date: 20060726
Scheduled Compliance Date: 20060809
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20061109
Enf Disposition Status: ACTION SATISFIED (CASE CLOSED)
Disposition Status Date: 20080509
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20060726
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: Generators - Pre-transport
Violation Type: 262.C
Violation Determined Date: 20060726
Scheduled Compliance Date: 20060809
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20061109
Enf Disposition Status: ACTION SATISFIED (CASE CLOSED)
Disposition Status Date: 20080509
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20060726
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: TSD - General Facility Standards
Violation Type: 264.B
Violation Determined Date: 20060726
Scheduled Compliance Date: 20060809
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20061109
Enf Disposition Status: ACTION SATISFIED (CASE CLOSED)
Disposition Status Date: 20080509
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20060726
Enf Disposition Status:
Disposition Status Date:

Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: LDR - General
Violation Type: 268.A
Violation Determined Date: 20060726
Scheduled Compliance Date: 20060809
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20061109
Enf Disposition Status: ACTION SATISFIED (CASE CLOSED)
Disposition Status Date: 20080509
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20060726
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: TSD IS-Container Use and Management
Violation Type: 265.I
Violation Determined Date: 20060725
Scheduled Compliance Date:
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20060726
Enf Disposition Status:
Disposition Status Date:
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Violation Details

Found Violation: Yes
Citation:
Violation Short Description: TSD IS-Container Use and Management
Violation Type: 265.I
Violation Determined Date: 20060725
Scheduled Compliance Date: 20060809
Return to Compliance: Documented
Actual Return to Compl: 20061009
Violation Responsible Agency: EPA

Enforcement Details

Enforcement Type: 120
Enforcement Type Description: WRITTEN INFORMAL
Enforcement Action Date: 20061109
Enf Disposition Status: ACTION SATISFIED (CASE CLOSED)
Disposition Status Date: 20080509
Enforcement Lead Agency: EPA
Proposed Penalty Amount:
Final Amount:
Paid Amount:

Evaluation Details

Evaluation Start Date: 20060725
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - General
Return to Compliance Date: 20061009
Evaluation Agency: EPA

Evaluation Start Date: 20060725
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD - General Facility Standards
Return to Compliance Date: 20061009
Evaluation Agency: EPA

Evaluation Start Date: 20060725
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: Generators - Pre-transport
Return to Compliance Date: 20061009
Evaluation Agency: EPA

Evaluation Start Date: 20060725
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: LDR - General
Return to Compliance Date: 20061009
Evaluation Agency: EPA

Evaluation Start Date: 20060725
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION ON-SITE
Violation Short Description: TSD IS-Container Use and Management
Return to Compliance Date: 20061009
Evaluation Agency: EPA

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: No
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No

Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19941128
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Handler Details

Sequence No: 2
Receive Date: 20030212
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 2
Generator Code Description: Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Handler Details

Sequence No: 3
Receive Date: 20040209
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Handler Details

Sequence No: 4
Receive Date: 20050201
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Handler Details

Sequence No: 5
Receive Date: 20060131
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Handler Details

Sequence No: 6
Receive Date: 20061211
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 7
Receive Date: 20070409
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 8
Receive Date: 20080324
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator

Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 9
Receive Date: 20090504
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 10
Receive Date: 20100308
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 11
Receive Date: 20110221
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 12
Receive Date: 20120319
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 13
Receive Date: 20130624
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 14
Receive Date: 20140428
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 15
Receive Date: 20150504
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 16
Receive Date: 20160418
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 17
Receive Date: 20170525
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 18
Receive Date: 20180430
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 19
Receive Date: 20190124
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 20
Receive Date: 20200122
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Hazardous Waste Handler Details

Sequence No: 21
Receive Date: 20210208
Handler Name: LAWRENCE MEMORIAL HOSP
Federal Waste Generator Code: 3
Generator Code Description: Very Small Quantity Generator
Source Type: Notification

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Hazardous Waste Code: D018
Waste Code Description: BENZENE

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Private
Name: PAUL BAKER
Date Became Current: 20190101
Date Ended Current:
Phone:
Source Type: Notification
Street No:
Street 1: 325 MAINE
Street 2:
City: LAWRENCE
State: KS
Country: US
Zip Code: 66044

Owner/Operator Ind: Current Operator
Type: Municipal
Street No:
Street 1:

Name:	CITY OF LAWRENCE	**Street 2:**	
Date Became Current:	20030212	**City:**	
Date Ended Current:		**State:**	
Phone:		**Country:**	
Source Type:	Notification	**Zip Code:**	

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	
Name:	LAWRENCE MEMORIAL HOSPITAL	**Street 2:**	
Date Became Current:	19670215	**City:**	
Date Ended Current:		**State:**	KS
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	325 MAINE
Name:	LAWRENCE MEMORIAL HOSPITAL	**Street 2:**	
Date Became Current:	19670215	**City:**	LAWRENCE
Date Ended Current:		**State:**	KS
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	66044

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	
Name:	TIM TATLOCK	**Street 2:**	
Date Became Current:	19670215	**City:**	
Date Ended Current:	20080312	**State:**	
Phone:		**Country:**	
Source Type:	Notification	**Zip Code:**	

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Private	**Street 1:**	325 MAIN
Name:	LAWRENCE MEMORIAL HOSPITAL	**Street 2:**	
Date Became Current:	19670215	**City:**	LAWRENCE
Date Ended Current:		**State:**	KS
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	66044

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	325 MAIN
Name:	PAUL BAKER	**Street 2:**	
Date Became Current:	20190101	**City:**	LAWRENCE
Date Ended Current:		**State:**	KS
Phone:		**Country:**	US
Source Type:	Notification	**Zip Code:**	66044

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Municipal	**Street 1:**	6 E 6TH ST
Name:	CITY OF LAWRENCE	**Street 2:**	
Date Became Current:		**City:**	LAWRENCE
Date Ended Current:		**State:**	KS
Phone:	785-832-3400	**Country:**	
Source Type:	Notification	**Zip Code:**	66044

Owner/Operator Ind:	Current Operator	**Street No:**	
Type:	Private	**Street 1:**	
Name:	TOM DAMEWOOD	**Street 2:**	
Date Became Current:	20080313	**City:**	
Date Ended Current:		**State:**	
Phone:		**Country:**	
Source Type:	Notification	**Zip Code:**	

Owner/Operator Ind:	Current Owner	**Street No:**	
Type:	Municipal	**Street 1:**	6 E 6TH ST
Name:	CITY OF LAWRENCE	**Street 2:**	
Date Became Current:	20030212	**City:**	LAWRENCE
Date Ended Current:		**State:**	KS
Phone:	785-832-3400	**Country:**	
Source Type:	Notification	**Zip Code:**	66044

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	
Name:	TIM TATLOCK	***Street 2:***	
Date Became Current:	19670215	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	
Source Type:	Notification	***Zip Code:***	

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Private	***Street 1:***	
Name:	LAWRENCE MEMORIAL HOSPITAL	***Street 2:***	
Date Became Current:	19670215	***City:***	
Date Ended Current:		***State:***	
Phone:		***Country:***	
Source Type:	Notification	***Zip Code:***	

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Private	***Street 1:***	325 MAIN
Name:	TOM DAMEWOOD	***Street 2:***	
Date Became Current:	20080313	***City:***	LAWRENCE
Date Ended Current:		***State:***	KS
Phone:		***Country:***	US
Source Type:	Notification	***Zip Code:***	66044

Historical Handler Details

Receive Dt:	20200122
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20190124
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20180430
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20170525
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20160418
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20150504
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20140428
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20130624
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20120319
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20110221
Generator Code Description:	Very Small Quantity Generator
Handler Name:	LAWRENCE MEMORIAL HOSP

Receive Dt:	20100308

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20090504
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20080324
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20070409
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20061211
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20060131
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20050201
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20040209
Generator Code Description: Very Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 20030212
Generator Code Description: Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

Receive Dt: 19941128
Generator Code Description: Small Quantity Generator
Handler Name: LAWRENCE MEMORIAL HOSP

1	***2 of 5***	***SE***	***0.19 / 1,024.64***	***855.41 / 2***	***LAWRENCE FORMER HOSPITAL SITE 325 MAINE STREET LAWRENCE KS***	***SHWS***

ISL Project Code: C402370808
CERCLIS No:
County Name:
River Basin: KS - Lower Republican
EUC in Place: No
Site Status (KDHE): Resolved
Site Name: LAWRENCE FORMER HOSPITAL SITE
Address (KDHE): 325 MAINE STREET
City (KDHE): LAWRENCE
Zip Code (KDHE):
County (KDHE): DOUGLAS
Latitude: 38.97824
Longitude: -95.2483
Program Name (KDHE): BER - Site Assessment
Project Manager:
Contaminants: VOC
Link: https://keap.kdhe.state.ks.us/BER_ISL/ISL_Pub_Detail.aspx?ProjectCode=C402370808
Other Names:
Site Status (Map): Resolved
Site Name (Map): LAWRENCE FORMER HOSPITAL SITE
Address (Map): 325 MAINE STREET
City (Map): LAWRENCE
Zip Code (Map):
County (Map): Douglas
Latitude (Map): 38.97824
Longitude (Map): -95.2483

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Program Name (Map): BER - Site Assessment
Project Manager Name:
Contaminant Type: VOC
Haseuc: No
Web Report: https://keap.kdhe.state.ks.us/BER_ISL/ISL_Pub_Detail.aspx?ProjectCode=C402370808
Object ID: 2746905
Source: KDHE - Identified Sites List;OpenData - BER Identified Sites List Interactive Map
Site Narrative:

The Lawrence Former Hospital Site is located in an area formerly occupied by the south wing of the Lawrence Memorial Hospital. During demolition of the basement and tunnel beneath the south wing in December 1999, workers discovered a vault containing a greenish liquid with a citrus odor. The City hired a private consulting company, PSI, to test the green liquid and environmental impacts. Tetrachloroethene (PCE) was detected at 7.7 mg/L and D-limonene at 9.3 mg/L in a sample from the green liquid. A report by PSI indicated the liquid from the vault was disposed of by Haz-Mat Response. The vault was then demolished and removed, leaving a pit estimated to have been 12 feet below ground surface (bgs). Confirmation samples tested by PSI in March 2000 detected PCE at concentrations ranging from 1.9 mg/kg to 7.1 mg/kg in excavated soils, at 0.008 mg/kg, and at 0.12 mg/L in a surface water sample from the excavation pit. Water from the pit and excavated soils were removed and the excavation pit backfilled.

KDHE initiated a Site Reconnaissance and Evaluation (SRE) in July 2000 to confirm results reported by PSI. During the SRE, six soil samples were collected form four locations and an attempt was made to collect groundwater samples at each of the four locations. Groundwater was not encountered during the SRE. PCE was detected in one soil sample at 0.0006 mg/kg, well below the RSK for the Soil to Grounder Pathway of 0.18 mg/kg. No contamination was detected above regulatory limits during the SRE.

Actions Completed

Activity Type:	MASTER PROJECT	**Start:**	07/01/2000
Activity:	Master Project Details	**Completed:**	12/27/2000
Activity Type:	ASSESSMENT	**Start:**	07/01/2000
Activity:	Initial Site Screening	**Completed:**	07/01/2000
Activity Type:	SITE ACTIONS COMPLETE	**Start:**	12/27/2000
Activity:	NFRAP	**Completed:**	12/27/2000
Activity Type:	ASSESSMENT	**Start:**	07/01/2000
Activity:	Site Reconnaissance and Evaluation	**Completed:**	12/27/2000

Legal Description

Township:	12	**Section:**	25
Range:	19W	**Parcel:**	
Description:	NW/4, SE/4		

BER Identified Sites List

Lead Agency: KDHE
Media Affected: N/A
Contamination Type: Drycleaner
Remediation to Air:
Remediation to Soil:
Remediation to Water:
Remediation Immediate: no longer recorded

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	3 of 5	SE	0.19 / 1,024.64	855.41 / 2	Lawrence Memorial Hosp 325 Maine Lawrence KS 66044	LUST

Site ID:	U4-023-01255	**Reported by:**	
Site ID Ext:		**Owner:**	
Facility ID:	06201	**Staff Name:**	
Owner ID:	06201	**Trust?:**	
Status:	Closed	**Section:**	25
Release Dt:		**Township:**	12S
Discovery Dt:		**Range:**	19E
Init Rprt Dt:	6/17/1992	**Latitude:**	38.9783

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Leak Type: **Longitude:** -95.2478
Substance Rlsd: **Fac County:** Douglas
Assessment Description: ust & piping removed during spring 91, unknowing requirements for need of assess & formal ust closure. location of ust re-excavated & assessed. no contam discovered. no action required, site regarding ust closure considered closed.
Update Information:

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1 | **4 of 5** | **SE** | **0.19 / 1,024.64** | **855.41 / 2** | **Lawrence Memorial Hospital**
325 Maine
Lawrence KS 66044 | **LUST**

Site ID: U4-023-13878 **Reported by:**
Site ID Ext: **Owner:** Same
Facility ID: 06201 **Staff Name:** Meredith Roth
Owner ID: 06201 **Trust?:**
Status: Closed **Section:** 25
Release Dt: **Township:** 12S
Discovery Dt: **Range:** 19E
Init Rprt Dt: 12/13/2006 **Latitude:** 38.9783
Leak Type: **Longitude:** -95.2478
Substance Rlsd: **Fac County:** Douglas
Assessment Description: No known or reported releases associated with this UST.
Update Information: One 15,000 gallon diesel UST was removed from this site on 11/29/06. This UST was resting on a concrete slab. This UST was removed due to the construction of an addition to the hospital. None of the soil surrounding the UST's was discolored or had a; NOTE: many records provided by the department have a truncated Update Information field.

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1 | **5 of 5** | **SE** | **0.19 / 1,024.64** | **855.41 / 2** | **LAWRENCE MEMORIAL HOSPITAL**
325 MAINE STREET
LAWRENCE KS 66044 | **UST**

Facility ID: 06201 **Latitude:** 38.9778
Entity Sta: Active **Longitude:** -95.2486
Facility County: Douglas **Collect Me:** GPS
Facility District: NEDO **Permit AST:** 0.0
Permit UST: 1.0 **Expire AST:** 0.0
Expire UST: 0.0 **Unpermit A:** 0.0
Unpermit U: 1.0 **LUST Count:** 0.0
Inspect Date: 12-May-2020
Facility Status: Tank(s) Currently In Use
Owner Name: LAWRENCE MEMORIAL HOSPITAL
Facility Addres: Legal Description - Qtr1: NE Qtr2: SW Qtr3: SW Qtr4: | Section: 25 Township: 12S Range: 19E
Pub Link: https://keap.kdhe.state.ks.us/BerTanks/Default.aspx?facid=06201

Detail Info

Tank No: U001 **Facility Name:** LAWRENCE MEMORIAL HOSPITAL
Tank Type: U **Latitude:** 38.9778
Status: Permanently Out of Service **Longitude:** -95.2486
Petro Flag: Yes **Collect Me:** GPS
Cont Name: RICK BALLINGER **Facility 911 ZIP:** 66044
Capacity: 550 **Facility 911 City:** LAWRENCE
Material: Steel **Facility 911 Address:** 325 MAINE STREET
Fill Remove: Removed
Substance: Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))

Detail Info

Tank No: U004 **Facility Name:** LAWRENCE MEMORIAL HOSPITAL
Tank Type: U **Latitude:** 38.9778
Status: Current in Use **Longitude:** -95.2486
Petro Flag: Yes **Collect Me:** GPS

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Cont Name:	RICK BALLINGER	**Facility 911 ZIP:**	66044
Capacity:	20000	**Facility 911 City:**	LAWRENCE
Material:	Fbr Ref Plastic	**Facility 911 Address:**	325 MAINE STREET
Fill Remove:			
Substance:	Fuel Oil No. 1 (Cercla/CAS No: 8008-20-6 (Fire, Chronic, Acute))		

Detail Info

Tank No:	U002	**Facility Name:**	LAWRENCE MEMORIAL HOSPITAL
Tank Type:	U	**Latitude:**	38.9778
Status:	Permanently Out of Service	**Longitude:**	-95.2486
Petro Flag:	Yes	**Collect Me:**	GPS
Cont Name:	RICK BALLINGER	**Facility 911 ZIP:**	66044
Capacity:	15000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	325 MAINE STREET
Fill Remove:	Removed		
Substance:	Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))		

Detail Info

Tank No:	U003	**Facility Name:**	LAWRENCE MEMORIAL HOSPITAL
Tank Type:	U	**Latitude:**	38.9778
Status:	Permanently Out of Service	**Longitude:**	-95.2486
Petro Flag:	Yes	**Collect Me:**	GPS
Cont Name:	RICK BALLINGER	**Facility 911 ZIP:**	66044
Capacity:	15000	**Facility 911 City:**	LAWRENCE
Material:	Fbr Ref Plastic|Other, DOUBLE WALL TANK	**Facility 911 Address:**	325 MAINE STREET
Fill Remove:	Removed		
Substance:	Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 2	WSW	0.22 / 1,138.12	874.24 / 21	ALL STAR DAIRY 1800 W 2ND LAWRENCE KS 66044	RCRA NON GEN

EPA Handler ID:	KSD031310329
Gen Status Universe:	No Report
Contact Name:	JERRY SWEEN
Contact Address:	PO BOX 505 , , LAWRENCE , KS, 66044 , US
Contact Phone No and Ext:	785-843-5511
Contact Email:	
Contact Country:	US
County Name:	DOUGLAS
EPA Region:	07
Land Type:	Private
Receive Date:	19870216
Location Latitude:	
Location Longitude:	

Violation/Evaluation Summary

Note:	NO RECORDS: As of Jan 2022, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19870216
Handler Name: ALL STAR DAIRY
Source Type: Notification
Federal Waste Generator Code:
Generator Code Description:

Waste Code Details

Hazardous Waste Code: D001
Waste Code Description: IGNITABLE WASTE

Owner/Operator Details

Owner/Operator Ind: Current Owner
Type: Private
Name: MILK PRODUCERS MARKET & CO
Date Became Current:
Date Ended Current:
Phone: 785-843-5511
Source Type: Notification
Street No:
Street 1: 1800 W 2ND ST
Street 2:
City: LAWRENCE
State: KS
Country:
Zip Code: 66044

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	2 of 2	WSW	0.22 / 1,138.12	874.24 / 21	All Star Dairy 1800 W 2nd Lawrence KS	LUST

Site ID: U4-023-01253
Site ID Ext:
Facility ID: 82127
Owner ID: 82127
Status: Closed
Release Dt:
Discovery Dt:
Init Rprt Dt: 6/18/1992
Leak Type:
Substance Rlsd:
Reported by:
Owner:
Staff Name:
Trust?:
Section: 25
Township: 12S
Range: 19E
Latitude: 38.98058
Longitude: -95.25616
Fac County: Douglas
Assessment Description: 1-4000 gal diesel ust & piping removed. there was no contaminated soil found at this time.
Update Information:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 3	ESE	0.22 / 1,183.92	855.63 / 2	Usd 497, Maintenance 146 Maine Avenue Lawrence KS 66044	LUST

Site ID: U4-023-11755
Site ID Ext:
Facility ID: 09120
Owner ID: 06064
Status: Closed
Release Dt:
Discovery Dt: 5/8/1997
Init Rprt Dt: 5/13/1997
Leak Type: Tank
Substance Rlsd: gas
Reported by:
Owner: Usd 497
Staff Name: Danial Wells
Trust?: Yes
Section: 25
Township: 12S
Range: 19E
Latitude: 38.98106
Longitude: -95.24627
Fac County: Douglas

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Assessment Description: 12/96: 1-10,000 gas ust removed due to failed tightness test. tank collapsed causing bowtie effect & 2 cracks. backfill material heavily impacted from stain/odor evidence. report states 2,442 gals contam. water removed from basin. samples from nat; NOTE: many records provided by the department have a truncated Assessment Description field.

Update Information: status changed to monitor after ok of final lsa report. 10/13/00: site assigned closed status by tf staff.

---

3 | **2 of 3** | **ESE** | **0.22 / 1,183.92** | **855.63 / 2** | **Usd 497, Maintenance**
146 Maine
Lawrence KS | **LUST**

Site ID:	U4-023-00604	**Reported by:**	
Site ID Ext:		**Owner:**	Usd 497
Facility ID:	09120	**Staff Name:**	Meredith Roth
Owner ID:	06064	**Trust?:**	
Status:	Closed	**Section:**	02
Release Dt:		**Township:**	12S
Discovery Dt:	7/23/1990	**Range:**	19E
Init Rprt Dt:	7/23/1990	**Latitude:**	38.98106
Leak Type:	Piping	**Longitude:**	-95.24627
Substance Rlsd:	gasoline	**Fac County:**	Douglas

Assessment Description: 1-2000 gal. gas ust was removed from this site. ~ 312 tons of contam. soil was removed from this site.

Update Information:

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3 | **3 of 3** | **ESE** | **0.22 / 1,183.92** | **855.63 / 2** | **USD #497 MAINTENANCE SHOP**
146 MAINE AVENUE
LAWRENCE KS 66044 | **UST**

Facility ID:	09120	**Latitude:**	38.9811
Entity Sta:	Active	**Longitude:**	-95.2463
Facility County:	Douglas	**Collect Me:**	GPS
Facility District:	NEDO	**Permit AST:**	0.0
Permit UST:	0.0	**Expire AST:**	0.0
Expire UST:	1.0	**Unpermit A:**	0.0
Unpermit U:	1.0	**LUST Count:**	1.0
Inspect Date:			

Facility Status: ALL Tank(s) Out of Use
Owner Name: USD #497
Facility Addres: Legal Description - Qtr1: NE Qtr2: SW Qtr3: SE Qtr4: | Section: 02 Township: 12 Range: 19E
Pub Link: https://keap.kdhe.state.ks.us/BerTanks/Default.aspx?facid=09120

Detail Info

Tank No:	U002	**Facility Name:**	USD #497 MAINTENANCE SHOP
Tank Type:	U	**Latitude:**	38.9811
Status:	Permanently Out of Service	**Longitude:**	-95.2463
Petro Flag:	Yes	**Collect Me:**	GPS
Cont Name:	Edwin Mumford	**Facility 911 ZIP:**	66044
Capacity:	10000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	146 MAINE AVENUE
Fill Remove:	Removed		

Substance: Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))

Detail Info

Tank No:	U001	**Facility Name:**	USD #497 MAINTENANCE SHOP
Tank Type:	U	**Latitude:**	38.9811
Status:	Permanently Out of Service	**Longitude:**	-95.2463
Petro Flag:	Yes	**Collect Me:**	GPS
Cont Name:	Edwin Mumford	**Facility 911 ZIP:**	66044
Capacity:	2000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	146 MAINE AVENUE
Fill Remove:	Removed		

Substance: Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

4 | **1 of 1** | **ESE** | **0.23 / 1,210.14** | **854.37 / 1** | **DOUGLAS COUNTY AMBULANCE SERVICE**
225 MAINE
LAWRENCE KS 66046 | **UST**

Facility ID:	27942	**Latitude:**	38.9505
Entity Sta:	Active	**Longitude:**	-95.2363
Facility County:	Douglas	**Collect Me:**	GPS
Facility District:	NEDO	**Permit AST:**	0.0
Permit UST:	0.0	**Expire AST:**	0.0
Expire UST:	0.0	**Unpermit A:**	0.0
Unpermit U:	1.0	**LUST Count:**	0.0
Inspect Date:			

Facility Status: ALL Tank(s) Out of Use
Owner Name: LAWRENCE, CITY OF %TREVOR FLYNN
Facility Addres: Legal Description - Qtr1: NW Qtr2: SE Qtr3: SW Qtr4: | Section: 06 Township: 13 Range: 20E
Pub Link: https://keap.kdhe.state.ks.us/BerTanks/Default.aspx?facid=27942

Detail Info

Tank No:	U001	**Facility Name:**	DOUGLAS COUNTY AMBULANCE SERVICE
Tank Type:	U	**Latitude:**	38.9505
Status:	Permanently Out of Service	**Longitude:**	-95.2363
Petro Flag:	Yes	**Collect Me:**	GPS
Cont Name:	Brian Lawrence	**Facility 911 ZIP:**	66046
Capacity:	1000	**Facility 911 City:**	LAWRENCE
Material:	Unknown	**Facility 911 Address:**	225 MAINE
Fill Remove:	Removed		

Substance: Gas (Incl Alcohol) (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))

5 | **1 of 3** | **WSW** | **0.23 / 1,216.27** | **871.74 / 18** | **Miller Mart #420**
1801 W 2nd St
Lawrence KS 66044 | **LUST**

Site ID:	U4-023-13112	**Reported by:**	
Site ID Ext:		**Owner:**	Tanana Oil Co
Facility ID:	28282	**Staff Name:**	Danial Wells
Owner ID:	00051	**Trust?:**	Yes
Status:	Monitor	**Section:**	25
Release Dt:		**Township:**	12S
Discovery Dt:		**Range:**	19E
Init Rprt Dt:	6/20/2001	**Latitude:**	38.98038
Leak Type:		**Longitude:**	-95.25569
Substance Rlsd:	gas	**Fac County:**	Douglas

Assessment Description: gas discovered seeping through cracks in concrete. filter on gas dispenser was leaking. ~1000 gals fluid recovered (~150-200 gals gas). additional product still present in sumps. soil on e of tank basin = strong gas odor.

Update Information:

5 | **2 of 3** | **WSW** | **0.23 / 1,216.27** | **871.74 / 18** | **TRI-ANGLE 2ND STREET**
1801 W 2ND ST
LAWRENCE KS 66044 | **UST**

Facility ID:	28282	**Latitude:**	38.9803
Entity Sta:	Active	**Longitude:**	-95.256
Facility County:	Douglas	**Collect Me:**	Map Interpolation
Facility District:	NEDO	**Permit AST:**	0.0
Permit UST:	3.0	**Expire AST:**	0.0
Expire UST:	0.0	**Unpermit A:**	0.0
Unpermit U:	0.0	**LUST Count:**	2.0
Inspect Date:	06-May-2020		

Facility Status: Tank(s) Currently In Use
Owner Name: TRI-ANGLE HOLDING CORPORATION
Facility Addres:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Pub Link: https://keap.kdhe.state.ks.us/BerTanks/Default.aspx?facid=28282

Detail Info

Tank No:	U002	**Facility Name:**	TRI-ANGLE 2ND STREET
Tank Type:	U	**Latitude:**	38.9803
Status:	Current in Use	**Longitude:**	-95.256
Petro Flag:	Yes	**Collect Me:**	Map Interpolation
Cont Name:	CHICVON OR Dale Miller	**Facility 911 ZIP:**	66044
Capacity:	12000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	1801 W 2ND ST
Fill Remove:			
Substance:	Gas Unleaded Premium (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))		

Detail Info

Tank No:	U003	**Facility Name:**	TRI-ANGLE 2ND STREET
Tank Type:	U	**Latitude:**	38.9803
Status:	Current in Use	**Longitude:**	-95.256
Petro Flag:	Yes	**Collect Me:**	Map Interpolation
Cont Name:	CHICVON OR Dale Miller	**Facility 911 ZIP:**	66044
Capacity:	12000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	1801 W 2ND ST
Fill Remove:			
Substance:	Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))		

Detail Info

Tank No:	U001	**Facility Name:**	TRI-ANGLE 2ND STREET
Tank Type:	U	**Latitude:**	38.9803
Status:	Current in Use	**Longitude:**	-95.256
Petro Flag:	Yes	**Collect Me:**	Map Interpolation
Cont Name:	CHICVON OR Dale Miller	**Facility 911 ZIP:**	66044
Capacity:	12000	**Facility 911 City:**	LAWRENCE
Material:	Steel	**Facility 911 Address:**	1801 W 2ND ST
Fill Remove:			
Substance:	Gas Unleaded Regular (Cercla/CAS No: 8006-61-9 (Fire, Chronic, Acute))		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
5	3 of 3	WSW	0.23 / 1,216.27	871.74 / 18	Tri-Angle 2nd Street 1801 W. 2ND ST. LAWRENCE KS 66044	LUST

Site ID:	U4-023-15061	**Reported by:**	P B Hoidale
Site ID Ext:		**Owner:**	TRI-ANGLE HOLDING CORPORATION
Facility ID:	28282	**Staff Name:**	Tom Winn
Owner ID:	00051	**Trust?:**	Yes
Status:	Active	**Section:**	25
Release Dt:		**Township:**	12S
Discovery Dt:	9/29/2017	**Range:**	19E
Init Rprt Dt:	9/29/2017	**Latitude:**	38.98038
Leak Type:	Piping	**Longitude:**	-95.25569
Substance Rlsd:	Gasoline	**Fac County:**	Douglas
Assessment Description:	Product line failed tightness test. Release found while affecting repair.		
Update Information:	Line has been repaired. Facility is currently in a monitoring program through the Storage Tank Release Trust Fund.		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
6	1 of 1	ESE	0.23 / 1,217.10	856.03 / 3	Douglas Co Ambulance 225 Maine Lawrence KS 66046	LUST

Site ID:	U4-023-00487	**Reported by:**	
Site ID Ext:		**Owner:**	Douglas County
Facility ID:	27942	**Staff Name:**	Marvin Glotzbach
Owner ID:	00234	**Trust?:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Status:	Closed	**Section:**	06
Release Dt:		**Township:**	13S
Discovery Dt:	3/30/1990	**Range:**	20E
Init Rprt Dt:	3/30/1990	**Latitude:**	38.95051
Leak Type:		**Longitude:**	-95.23629
Substance Rlsd:	gasoline	**Fac County:**	Douglas

Assessment Description: routine removal of 1000 gal. gasoline tank.
Update Information:

---

7 | **1 of 1** | **W** | **0.35 / 1,867.12** | **860.84 / 8** | **HALLMARK CARDS INC. SOUTH COOLING TOWER DIS KS** | **PFAS**

ID No:	2574	**SIC Code:**	
DNS No:		**NAICS Code:**	
Line of Business:		**County:**	Douglas
Year Started:		**State:**	KS
Contact:		**Latitude:**	-95.25832
Title:		**Longitude:**	38.98311
Phone:		**Map No:**	23
Doing Business as:			

Type: Publicly Owned Treatment Works and Industrial Oufalls
SIC Code Description:
NAICS Code Description:

---

8 | **1 of 2** | **ESE** | **0.39 / 2,070.54** | **860.21 / 7** | **LAWRENCE KAW RIVER WTP MECHANICAL PLANT KS** | **PFAS**

ID No:	2578	**SIC Code:**	
DNS No:		**NAICS Code:**	
Line of Business:		**County:**	Douglas
Year Started:		**State:**	KS
Contact:		**Latitude:**	-95.24449
Title:		**Longitude:**	38.97949
Phone:		**Map No:**	23
Doing Business as:			

Type: Publicly Owned Treatment Works and Industrial Oufalls
SIC Code Description:
NAICS Code Description:

---

8 | **2 of 2** | **ESE** | **0.39 / 2,070.54** | **860.21 / 7** | **LAWRENCE KAW RIVER WTP MECHANICAL PLANT KS** | **PFAS**

ID No:	2577	**SIC Code:**	
DNS No:		**NAICS Code:**	
Line of Business:		**County:**	Douglas
Year Started:		**State:**	KS
Contact:		**Latitude:**	-95.24449
Title:		**Longitude:**	38.97949
Phone:		**Map No:**	23
Doing Business as:			

Type: Publicly Owned Treatment Works and Industrial Oufalls
SIC Code Description:
NAICS Code Description:

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9 | **1 of 2** | **WNW** | **0.40 / 2,091.96** | **865.22 / 12** | **Hallmark, Lawrence 101 Mcdonald Dr Lawrence KS 66044** | **LUST**

Site ID:	U4-023-11028	**Reported by:**	

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Site ID Ext:		**Owner:**	Hallmark Cards Inc
Facility ID:	06659	**Staff Name:**	Dan Kellerman
Owner ID:	00322	**Trust?:**	
Status:	Closed	**Section:**	25
Release Dt:		**Township:**	12S
Discovery Dt:	7/16/1996	**Range:**	19E
Init Rprt Dt:	7/9/1996	**Latitude:**	38.98342
Leak Type:	Spill/Overfill	**Longitude:**	-95.25909
Substance Rlsd:	diesel fuel	**Fac County:**	Douglas

Assessment Description: 1 diesel in-place abandoned (80's) removed since choice toremove adjacent active usts. 250yds3 of diesel impacted soil removed from formerust basin,sidewalls,base. contaminated fill remains present in line trench-not accessable due to 2 large water mains; NOTE: many records provided by the department have a truncated Assessment Description field.

Update Information: 08/29/97: site assigned closed status.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	2 of 2	WNW	0.40 / 2,091.96	865.22 / 12	Hallmark, Lawrence 101 Mcdonald Drive Lawrence KS 66044	LUST

Site ID:	U4-023-10980	**Reported by:**	Jerry Wooley
Site ID Ext:		**Owner:**	Hallmark Cards Inc
Facility ID:	06659	**Staff Name:**	Dan Kellerman
Owner ID:	00322	**Trust?:**	
Status:	Closed	**Section:**	25
Release Dt:	5/11/1996	**Township:**	12S
Discovery Dt:	5/11/1996	**Range:**	19E
Init Rprt Dt:	5/13/1996	**Latitude:**	38.98342
Leak Type:	Spill/Overfill	**Longitude:**	-95.25909
Substance Rlsd:	fuel oil (diesel)	**Fac County:**	Douglas

Assessment Description: saturated soil removed from side of facility to eliminate /minimize migration of product into bldg. removal was necessary. due to presenceof fiberglass piping, additional soil removal was not pursued but will be considered for removal & treatment under t; NOTE: many records provided by the department have a truncated Assessment Description field.

Update Information: 11/96: 2 diesel usts removed. 08/29/97: site assigned closed status.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
10	1 of 1	W	0.40 / 2,111.32	863.31 / 10	HALLMARK CARDS INC. FRONT GATE KS	PFAS

ID No:	2572	**SIC Code:**	
DNS No:		**NAICS Code:**	
Line of Business:		**County:**	Douglas
Year Started:		**State:**	KS
Contact:		**Latitude:**	-95.25915
Title:		**Longitude:**	38.98329
Phone:		**Map No:**	23
Doing Business as:			
Type:	Publicly Owned Treatment Works and Industrial Oufalls		
SIC Code Description:			
NAICS Code Description:			

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	1 of 1	WNW	0.42 / 2,240.04	853.30 / 0	HALLMARK CARDS INC. NORTH COOLING TOWER DIS KS	PFAS

ID No:	2575	**SIC Code:**	
DNS No:		**NAICS Code:**	
Line of Business:		**County:**	Douglas
Year Started:		**State:**	KS
Contact:		**Latitude:**	-95.25825
Title:		**Longitude:**	38.98575
Phone:		**Map No:**	23
Doing Business as:			
Type:	Publicly Owned Treatment Works and Industrial Oufalls		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
SIC Code Description:						
NAICS Code Description:						

12	1 of 1	ESE	0.43 / 2,249.78	856.25 / 3	LAWRENCE KAW RIVER WTP FRONT GATE KS	PFAS

ID No:	2579	SIC Code:	
DNS No:		NAICS Code:	
Line of Business:		County:	Douglas
Year Started:		State:	KS
Contact:		Latitude:	-95.24401
Title:		Longitude:	38.97911
Phone:		Map No:	23
Doing Business as:			
Type:	Publicly Owned Treatment Works and Industrial Oufalls		
SIC Code Description:			
NAICS Code Description:			

13	1 of 1	ESE	0.44 / 2,297.40	844.32 / -9	LAWRENCE KAW RIVER WTP POINT OF INTEREST Sampling Point 002A2 KS	PFAS

ID No:	8430	SIC Code:	
DNS No:		NAICS Code:	
Line of Business:		County:	Douglas
Year Started:		State:	KS
Contact:		Latitude:	-95.243596
Title:		Longitude:	38.979586
Phone:		Map No:	23
Doing Business as:			
Type:	Publicly Owned Treatment Works and Industrial Oufalls		
SIC Code Description:			
NAICS Code Description:			

14	1 of 2	WNW	0.45 / 2,367.86	867.89 / 15	HALLMARK CARDS INC. BUSINESS SITE KS	PFAS

ID No:	2571	SIC Code:	
DNS No:		NAICS Code:	
Line of Business:		County:	Douglas
Year Started:		State:	KS
Contact:		Latitude:	-95.25943
Title:		Longitude:	38.98487
Phone:		Map No:	23
Doing Business as:			
Type:	Publicly Owned Treatment Works and Industrial Oufalls		
SIC Code Description:			
NAICS Code Description:			

14	2 of 2	WNW	0.45 / 2,367.86	867.89 / 15	HALLMARK CARDS INC. BUSINESS SITE KS	PFAS

ID No:	2570	SIC Code:	
DNS No:		NAICS Code:	
Line of Business:		County:	Douglas
Year Started:		State:	KS
Contact:		Latitude:	-95.25943
Title:		Longitude:	38.98487
Phone:		Map No:	23

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Doing Business as:
Type: Publicly Owned Treatment Works and Industrial Oufalls
SIC Code Description:
NAICS Code Description:

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15 | **1 of 1** | **ESE** | **0.46 / 2,420.43** | **842.58 / -11** | **LAWRENCE KAW RIVER WTP**
POINT OF INTEREST
Sampling Point 002A3 KS | **PFAS**

ID No: 8431
DNS No:
Line of Business:
Year Started:
Contact:
Title:
Phone:
Doing Business as:
Type: Publicly Owned Treatment Works and Industrial Oufalls
SIC Code Description:
NAICS Code Description:

SIC Code:
NAICS Code:
County: Douglas
State: KS
Latitude: -95.24328
Longitude: 38.97927
Map No: 23

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16 | **1 of 1** | **S** | **0.49 / 2,564.30** | **869.22 / 16** | **Johnson Property**
508 MICHIGAN STREET
LAWRENCE KS 66044 | **LUST**

Site ID: U4-023-14950
Site ID Ext:
Facility ID: 30627
Owner ID: 30627
Status: Closed
Release Dt:
Discovery Dt:
Init Rprt Dt: 9/1/2016
Leak Type:
Substance Rlsd:
Assessment Description:
Update Information: Redevelopment site. UPDATE: 12/7/16- Land use in the immediate vicinity of the site is mixed residential and commercial. Property owner has applied to the UST Property Redevelopment Trust Fund. A 1,000 gallon UST and associated piping were removed on 1; NOTE: many records provided by the department have a truncated Update Information field.

Reported by:
Owner: MARTIN B. & JANA J. JOHNSON
Staff Name: Stephanie Pfannenstiel
Trust?:
Section: 25
Township: 12S
Range: 19E
Latitude:
Longitude:
Fac County: Douglas

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17 | **1 of 1** | **S** | **0.60 / 3,153.39** | **880.67 / 27** | **SCOTCH CLEANERS**
611 FLORIDA
LAWRENCE KS 66044 | **SHWS**

ISL Project Code: C402371948
CERCLIS No:
County Name:
Site Status (KDHE): Active
Site Name: SCOTCH CLEANERS
Address (KDHE): 611 FLORIDA
City (KDHE): LAWRENCE
Zip Code (KDHE): 66044
County (KDHE): DOUGLAS
Latitude: 38.972343
Longitude: -95.252612
Program Name (KDHE): Drycleaning
Project Manager: BECKER, M.
Contaminants: VOC
Link: https://keap.kdhe.state.ks.us/BER_ISL/ISL_Pub_Detail.aspx?ProjectCode=C402371948
Other Names: 1501 6TH, LAWRENCE - PCE SITE; 1501 6TH, LAWRENCE - PCE SITE
Site Status (Map): Active
Site Name (Map): SCOTCH CLEANERS

River Basin: KS - Lower Republican
EUC in Place: No

Address (Map):	611 FLORIDA
City (Map):	LAWRENCE
Zip Code (Map):	66044
County (Map):	DG
Latitude (Map):	38.972343
Longitude (Map):	-95.252612
Program Name (Map):	Drycleaning
Project Manager Name:	
Contaminant Type:	VOC
Haseuc:	No
Web Report:	https://keap.kdhe.state.ks.us/BER_ISL/ISL_Pub_Detail.aspx?ProjectCode=C402371948
Object ID:	2745512
Source:	KDHE - Identified Sites List;OpenData - BER Identified Sites List Interactive Map
Site Narrative:	

The 1501 6th Street PCE site is in Lawrence, Kansas. The site lies within a commercially zoned strip mall on the south side of 6th Street. Residential property lies to the south and another commercial strip mall is located to the west.

Past monitoring well sampling and probing at the site suggested that the Scotch Cleaners drycleaning facility was the source of contamination. Site/property was referred to the Dryc cleaning program who sent out a request for an application.

Scotch Cleaners was accepted into the dry cleaning trust fund and is currently in semi-annual long term monitoring. The last LTM event occurred Fall 2020.

Actions Completed

Activity Type:	ASSESSMENT	***Start:***	12/05/2004
Activity:	Site Reconnaissance and Evaluation	***Completed:***	03/04/2005
Activity Type:	MONITORING	***Start:***	09/01/2017
Activity:	Long Term Monitoring	***Completed:***	09/28/2017
Activity Type:	MONITORING	***Start:***	03/01/2018
Activity:	Long Term Monitoring	***Completed:***	03/07/2018
Activity Type:	MONITORING	***Start:***	03/01/2017
Activity:	Long Term Monitoring	***Completed:***	04/19/2017
Activity Type:	MONITORING	***Start:***	03/01/2019
Activity:	Long Term Monitoring	***Completed:***	05/22/2019
Activity Type:	TRANSFER	***Start:***	03/04/2005
Activity:	Transfer Within Bureau	***Completed:***	03/04/2005
Activity Type:	MONITORING	***Start:***	04/25/2017
Activity:	Long Term Monitoring	***Completed:***	06/09/2017
Activity Type:	MONITORING	***Start:***	11/03/2020
Activity:	Long Term Monitoring	***Completed:***	04/01/2021
Activity Type:	MONITORING	***Start:***	10/07/2016
Activity:	Long Term Monitoring	***Completed:***	10/07/2016

Actions Underway

Activity Type:	MONITORING	***Start:***	04/01/2010
Activity:	Long Term Monitoring	***Completed:***	
Activity Type:	MASTER PROJECT	***Start:***	12/05/2004
Activity:	Master Project Details	***Completed:***	04/01/2021
Activity Type:	ASSESSMENT	***Start:***	08/05/2009
Activity:	Expanded Site Assessment	***Completed:***	

Legal Description

Township: 12 **Section:** 25
Range: 19E **Parcel:**
Description: SE, SW

BER Identified Sites List

Lead Agency: KDHE
Media Affected: N/A
Contamination Type: Drycleaner
Remediation to Air:
Remediation to Soil:
Remediation to Water:
Remediation Immediate: no longer recorded

Unplottable Summary

Total: 0 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID

No unplottable records were found that may be relevant for the search criteria.

Unplottable Report

No unplottable records were found that may be relevant for the search criteria.

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13 and E1527-21, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

Formerly Utilized Sites Remedial Action Program: DOE FUSRAP

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

Government Publication Date: Mar 4, 2017

National Priority List: NPL

Sites on the United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Jan 25, 2022

National Priority List - Proposed: PROPOSED NPL

Sites proposed - by the EPA, the state agency, or concerned citizens - for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Jan 25, 2022

Deleted NPL: DELETED NPL

Sites deleted from the United States Environmental Protection Agency (EPA)'s National Priorities List. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate. Sites are represented by boundaries where available in the EPA Superfund Site Boundaries maintained by the Shared Enterprise Geodata and Services (SEGS). Site boundaries represent the footprint of a whole site, the sum of all of the Operable Units and the current understanding of the full extent of contamination; for Federal Facility sites, the total site polygon may be the Facility boundary. Where there is no polygon boundary data available for a given site, the site is represented as a point.

Government Publication Date: Jan 25, 2022

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Feb 24, 2022

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Feb 24, 2022

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Jan 31, 2022

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Jan 31, 2022

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Jan 31, 2022

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Jan 31, 2022

RCRA Very Small Quantity Generators List: RCRA VSQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Very Small Quantity Generators (VSQG) generate 100 kilograms or less per month of hazardous waste, or one kilogram or less per month of acutely hazardous waste. Additionally, VSQG may not accumulate more than 1,000 kilograms of hazardous waste at any time.

Government Publication Date: Jan 31, 2022

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Jan 31, 2022

RCRA Sites with Controls: RCRA CONTROLS

List of Resource Conservation and Recovery Act (RCRA) facilities with institutional controls in place. RCRA gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Government Publication Date: Jan 31, 2022

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Dec 30, 2021

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Dec 30, 2021

Land Use Control Information System: LUCIS

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

Government Publication Date: Sep 1, 2006

Institutional Control Boundaries at NPL sites: NPL IC

Boundaries of Institutional Control areas at sites on the United States Environmental Protection Agency (EPA)'s National Priorities List, or Proposed or Deleted, made available by the EPA's Shared Enterprise Geodata and Services (SEGS). United States Environmental Protection Agency (EPA)'s National Priorities List of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. Institutional controls are non-engineered instruments such as administrative and legal controls that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy.

Government Publication Date: Jan 25, 2022

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports made available by the United States Coast Guard National Response Center (NRC). The NRC fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. These data contain initial incident data that has not been validated or investigated by a federal/state response agency.

Government Publication Date: Dec 31, 2021

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Aug 20, 2021

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Facility Response Plan: FRP

List of facilities that have submitted Facility Response Plans (FRP) to EPA. Facilities that could reasonably be expected to cause "substantial harm" to the environment by discharging oil into or on navigable waters are required to prepare and submit Facility Response Plans (FRPs). Harm is determined based on total oil storage capacity, secondary containment and age of tanks, oil transfer activities, history of discharges, proximity to a public drinking water intake or sensitive environments.

Government Publication Date: Dec 2, 2020

Historical Gas Stations: HIST GAS STATIONS

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

Government Publication Date: Jul 1, 1930

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 10, 2020

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Apr 28, 2020

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Feb 24, 2022

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Nov 16, 2021

State

Identified Sites List: SHWS

A list of identified sites in the state of Kansas. The Identified Sites List is a public record of environmentally contaminated sites (Excluding underground and above-ground tank sites). This list is made available by the Kansas Department of Health and Environment. This database is state equivalent CERCLIS.

Government Publication Date: Jan 20, 2022

Delisted Identified Sites: DELISTED SHWS

This database contains environmentally contaminated sites (Excluding underground and above-ground tank sites) that were removed from Kansas Department of Health and Environment's Identified Sites list.

Government Publication Date: Jan 20, 2022

Solid Waste Disposable Facilities: SWF/LF

A list of Solid Waste Facilities and Landfills permitted by the Solid Waste Section of the Bureau of Waste Management. This list is made available by Kansas Department of Health and Environment.

Government Publication Date: Mar 8, 2022

Leaking Underground Storage Tank Data: LUST

A list of Leaking Underground Storage Tank (LUST) facilities registered with the Kansas Petroleum Storage Tank Release Trust Funds. This list is made available by the Kansas Department of Health and Environment.

Government Publication Date: Jul 1, 2020

Aboveground Storage Tank Assessment Database (Leaking Tanks): LAST

A list of Leaking Aboveground Storage Tank (LAST) facilities registered with the Kansas Petroleum Storage Tank Release Trust Funds. This list is made available by the Kansas Department of Health and Environment.

Government Publication Date: Jul 1, 2020

Delisted Leaking Storage Tanks: DELISTED LST

This database contains a list of leaking storage tank sites that were removed from the Petroleum Storage Tank Release Trust Funds, Kansas Department of Health and Environment.

Government Publication Date: Jul 1, 2020

Underground Storage Tanks: UST

List of Underground Storage Tank (UST) facilities in the state of Kansas. This list is made available by Kansas Department of Health and Environment.

Government Publication Date: Feb 3, 2022

Aboveground Storage Tanks: AST

A list of Aboveground Storage Tank (AST) facilities in the state of Kansas. This list is made available by Kansas Department of Health and Environment.

Government Publication Date: Feb 3, 2022

Delisted Storage Tanks: DELISTED STORAGE TANK

This database contains a list of storage tank sites that were removed from the Kansas Department of Health and Environment storage tank database.

Government Publication Date: Nov 12, 2021

Environmental Use Control/Institutional Control Information: INST

A list of sites with Environmental Use Control/Institutional Control Information in Kansas. This list is made available by the Kansas Department of Health and Environment.

Government Publication Date: Jan 20, 2022

Voluntary Cleanup Sites: VCP

A list of sites registered with the Voluntary Cleanup and Property Redevelopment Program (VCPRP). This list is made available by the Kansas Department of Health and Environment. Under the VCPRP, developers and buyers who perform successful cleanups of contaminated properties that are within established criteria will be granted a "No Further Action" determination by the department, satisfying the regulated community's need for protection from potential future liabilities.

Government Publication Date: Jan 20, 2022

Brownfields: BROWNFIELDS

A list of Brownfield sites in the state of Kansas. This list is made available by Kansas Department of Health and Environment.

Government Publication Date: Jan 20, 2022

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 7, which includes Kansas. There are no LUST records in Kansas at this time.

Government Publication Date: Oct 12, 2021

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 7, which includes Kansas.

Government Publication Date: Oct 12, 2021

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 12, 2021

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 13, 2021

County

No County standard environmental record sources available for this State.

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The Facility Registry Service (FRS) is a centrally managed database that identifies facilities, sites, or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, and data collected from EPA's Central Data Exchange registrations and data management personnel. This list is made available by the Environmental Protection Agency (US EPA).

Government Publication Date: Nov 2, 2020

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U. S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Aug 24, 2021

Perfluorinated Alkyl Substances (PFAS) Releases: PFAS TRI

List of Toxics Release Inventory (TRI) facilities at which the reported chemical is a Per- or polyfluorinated alkyl substance (PFAS) included in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances. The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment.

Government Publication Date: Aug 24, 2021

PFOA/PFOS Contaminated Sites: PFAS NPL

List of sites where PFOA or PFOS contaminants have been found in drinking water or soil. Made available by the Federal Environmental Protection Agency (EPA).

Government Publication Date: Jan 11, 2022

Perfluorinated Alkyl Substances (PFAS) Water Quality: PFAS WATER

The Water Quality Portal (WQP) is a cooperative service sponsored by the United States Geological Survey (USGS), the Environmental Protection Agency (EPA), and the National Water Quality Monitoring Council (NWQMC). This listing includes records from the Water Quality Portal where the characteristic (environmental measurement) is in the Environmental Protection Agency (EPA)'s consolidated PFAS Master List of PFAS Substances.

Government Publication Date: Jul 20, 2020

SSEHRI PFAS Contamination Sites: PFAS SSEHRI

This PFAS Contamination Site Tracker database is compiled by the Social Science Environmental Health Research Institute (SSEHRI) at Northeastern University. According to the SSEHRI, the database records qualitative and quantitative data from each known site of PFAS contamination, including timeline of discovery, sources, levels, health impacts, community response, and government response. The goal of this database is to compile information and support public understanding of the rapidly unfolding issue of PFAS contamination. All data presented was extracted from government websites, news articles, or publicly available documents, and this is cited in the tracker. Disclaimer: The source conveys this database undergoes regular updates as new information becomes available, some sites may be missing and/or contain information that is incorrect or outdated, as well as their information represents all contamination sites SSEHRI is aware of, not all possible contamination sites. This data is not intended to be used for legal purposes. Limited location details are available with this data. Access the following for the most current informations https://pfasproject.com/pfas-contamination-site-tr acker/

Government Publication Date: Dec 12, 2019

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Sep 1, 2020

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Nov 22, 2021

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).
Government Publication Date: Apr 11, 2019

Hist TSCA: HIST TSCA
The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.
The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.
Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN
An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP
An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.
Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP
Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.
Government Publication Date: Mar 30, 2022

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER
The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.
Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS
The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.
Government Publication Date: Oct 14, 2021

Drycleaner Facilities: FED DRYCLEANERS
A list of drycleaner facilities from Enforcement and Compliance History Online (ECHO) online search. The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.
Government Publication Date: May 5, 2021

Delisted Drycleaner Facilities: DELISTED FED DRY
List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).
Government Publication Date: May 5, 2021

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: May 26, 2021

Former Military Nike Missile Sites: FORMER NIKE

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

Government Publication Date: Dec 2, 1984

PHMSA Pipeline Safety Flagged Incidents: PIPELINE INCIDENT

A list of flagged pipeline incidents made available by the U.S. Department of Transportation (US DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA). PHMSA regulations require incident and accident reports for five different pipeline system types.

Government Publication Date: Jul 7, 2020

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: May 11, 2021

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 2, 2021

Surface Mining Control and Reclamation Act Sites: SMCRA

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of Abandoned Mine Land (AML) impacts, as well as information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Government Publication Date: Dec 18, 2020

Mineral Resource Data System: MRDS

The Mineral Resource Data System (MRDS) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS. The USGS has ceased systematic updates of the MRDS database with their focus more recently on deposits of critical minerals while providing a well-documented baseline of historical mine locations from USGS topographic maps.

Government Publication Date: Mar 15, 2016

Uranium Mill Tailings Radiation Control Act Sites: URANIUM

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

Government Publication Date: Mar 4, 2017

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Dec 21, 2021

Superfunds Consent Decrees: CONSENT DECREES

A list of Superfund consent decrees made available by the Department of Justice, Environment & Natural Resources Division (ENRD).

Government Publication Date: Sep 30, 2018

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Apr 13, 2021

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Jan 20, 2022

State

Dry Cleaning Facilities: DRYCLEANERS

A listing of registered drycleaning facilities. This is provided by the Department of Health & Environment.

Government Publication Date: Jun 14, 2021

Delisted Drycleaners List: DELISTED DRYCLEANERS

List of sites removed from the drycleaners list made available by the Department of Health and Environment.

Government Publication Date: Jun 14, 2021

Kansas Spills Database: SPILLS

A list of Spills, discharges, and emergency release sites reported to the Kansas Department of Health and Environment (KDHE). This list is made available by KDHE.

Government Publication Date: Sep 17, 2021

Inventory of potential Perfluoroalkyl substances (PFAS) sites in Kansas: PFAS

List of sites in the statewide inventory of potential Perfluoroalkyl substances (PFAS) sites in Kansas, made available by the Kansas Department of Health and Environment (KDHE). The KDHE is taking steps to address Per-and polyfluoralkyl substances (PFAS) in drinking water through a joint investigation conducted by the Bureau of Environmental Remediation and the Bureau of Water, including the development of the statewide inventory and prioritization of potential PFAS sources.

Government Publication Date: Jun 30, 2019

Clandestine Drug Lab Locations: CDL

A list of illegal clandestine drug laboratories that are found throughout Kansas. This list was made available by the Kansas Department of Health and Environment (KDHE) and contains sites only till 2009. KDHE stopped funding the cleanup program in 2009 and now only provides technical advice and clean up guidance.

Government Publication Date: Aug 11, 2013

Tier 2 Report: TIER 2

A list of facilities which have reported hazardous substances to the Kansas Department of Health and Environment under the Kansas and Federal Emergency Planning and Community Right to know Act (EPCRA). Data provided by the Kansas Department of Health and Environment.

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental record sources available for this State.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

G. QUALIFICATIONS

JOE BEVERIDGE

PROFESSIONAL EDUCATION

Bachelor of Arts, Biological Science and Environmental Studies, University of Kansas, Lawrence, KS

Masters of Science, Biological Science, University of Nebraska at Omaha, Omaha, NE

CERTIFICATIONS/QUALIFICATIONS

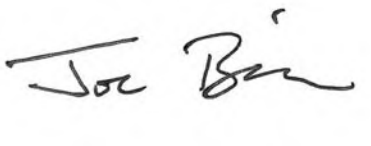
- Environmental Professional (EP) in Accordance with ASTM E1527-13
- OSHA 40 Hour Hazardous Materials/Waste Operations Certification
- OSHA 8-Hour Site Supervisor Certification
- 3-Day Asbestos Inspector Certification
- 40-Hour Wetland Training
- 40-Hour Plant Identification
- Mold Remediation Inspector

SELECTED EXPERIENCE

Mr. Beveridge has more than 20 years of diversified experience in the environmental field, including Phase I and Phase II Environmental Site Assessments, remediation, environmental due diligence permitting, asbestos identification, wetland delineations, and mold investigations.

Mr. Beveridge has had significant experience conducting Phase I Environmental Site Assessments for commercial real estate properties. He has conducted site inspections and interviews with property owners, and researched aerial photographs, topographical maps, city directories, and title information in association with Phase I Environmental Site Assessments.

Mr. Beveridge has also been responsible for the design and implementation of large-scale remediation projects for the City of Chicago in both the voluntary clean-up program and leaking underground storage tank trust fund.



Joe Beveridge

Endangered Species

General requirements	ESA Legislation	Regulations
Section 7 of the Endangered Species Act (ESA) mandates that federal agencies ensure that actions that they authorize, fund, or carry out shall not jeopardize the continued existence of federally listed plants and animals or result in the adverse modification or destruction of designated critical habitat. Where their actions may affect resources protected by the ESA, agencies must consult with the Fish and Wildlife Service and/or the National Marine Fisheries Service ("FWS" and "NMFS" or "the Services").	The Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*.); particularly section 7 (16 USC 1536).	50 CFR Part 402

1. Does the project involve any activities that have the potential to affect specifies or habitats?

No, the project will have No Effect due to the nature of the activities involved in the project.

No, the project will have No Effect based on a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office

✓ Yes, the activities involved in the project have the potential to affect species and/or habitats.

2. Are federally listed species or designated critical habitats present in the action area?

No, the project will have No Effect due to the absence of federally listed species and designated critical habitat

✓ Yes, there are federally listed species or designated critical habitats present in the action area.

3. What effects, if any, will your project have on federally listed species or designated critical habitat?

No Effect: Based on the specifics of both the project and any federally listed species in the action area, you have determined that the project will have absolutely no effect on listed species or critical habitat. in the action area.

✓ May Affect, Not Likely to Adversely Affect: Any effects that the project may have on federally listed species or critical habitats would be beneficial, discountable, or insignificant.

Likely to Adversely Affect: The project may have negative effects on one or more listed species or critical habitat.

4. Informal Consultation is required

Section 7 of ESA (16 USC. 1536) mandates consultation to resolve potential impacts to endangered and threatened species and critical habitats. If a HUD-assisted project may affect any federally listed endangered or threatened species or critical habitat, then compliance is required with Section 7. See 50 CFR Part 402 Subpart B Consultation Procedures.

Did the Service(s) concur with the finding that the project is Not Likely to Adversely Affect?

✓ Yes, the Service(s) concurred with the finding.

Based on the response, the review is in compliance with this section. Document and upload the following below:

(1) A biological evaluation or equivalent document
(2) Concurrence(s) from FWS and/or NMFS
(3) Any other documentation of informal consultation

Exception: If finding was made based on procedures provided by a letter of understanding, memorandum of agreement, programmatic agreement, or checklist provided by local HUD office, provide whatever documentation is mandated by that agreement.

No, the Service(s) did not concur with the finding.

6. For the project to be brought into compliance with this section, all adverse impacts must be mitigated. Explain in detail the exact measures that must be implemented to mitigate for the impact or effect, including the timeline for implementation. This information will be automatically included in the Mitigation summary for the environmental review. If negative effects cannot be mitigated, cancel the project using the button at the bottom of this screen.

Mitigation as follows will be implemented:

✓ No mitigation is necessary.

Explain why mitigation will not be made here:

Based on the location of the endangered and protected species in Douglas County, there will be no impact based on this project.

Screen Summary

Compliance Determination

This project May Affect, but is Not Likely to Adversely Affect, listed species, and informal consultation was conducted. This project is in compliance with the Endangered Species Act without mitigation. Concurrence with the Kansas Department of Fish and Wildlife on 3/01/2022.

Supporting documentation

FWS Consultation Response.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Danelle Walters

From: Thornton, Christopher J <christopher_thornton@fws.gov>
Sent: Tuesday, March 1, 2022 8:50 AM
To: Danelle Walters
Cc: Luginbill, Jason S
Subject: Re: [EXTERNAL] RE: 2022-0000849 105 Michigan St. Demolition and Infill Development

Dear Ms. Walters:

We have reviewed your proposal for residential demolition and infill development at 105 Michigan St Lawrence, Douglas County, Kansas.

We focused our review on our authority under the Endangered Species Act and potential effects to any federally listed threatened or endangered species, critical habitats, or species of conservation concern, as well as our other statutory authorities including the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Fish and Wildlife Coordination Act, and the National Environmental Policy Act.

We have no concerns with this project with regard to any federally listed threatened or endangered species, critical habitats, or other resources.

Please consider this our official response to your request and thank you for the opportunity to provide review and comment.

Please direct any questions to Chris Thornton at christopher_thornton@fws.gov or 785-539-3474 x 102.

Chris Thornton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan Kansas 66502
Office: (785) 539-3474 X 102

From: Thornton, Christopher J <christopher_thornton@fws.gov>
Sent: Tuesday, March 1, 2022 8:48 AM
To: Danelle Walters <dwalters@lawrenceks.org>
Cc: Luginbill, Jason S <jason_luginbill@fws.gov>
Subject: Re: [EXTERNAL] RE: 2022-0000849 105 Michigan St. Demolition and Infill Development

I apologize for missing that. It was a typo. I will send you another email with the correct county. Thanks for the heads up.

Chris Thornton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan Kansas 66502
Office: (785) 539-3474 X 102

From: Danelle Walters <dwalters@lawrenceks.org>
Sent: Monday, February 28, 2022 7:28 PM
To: Thornton, Christopher J <christopher_thornton@fws.gov>
Cc: Luginbill, Jason S <jason_luginbill@fws.gov>
Subject: [EXTERNAL] RE: 2022-0000849 105 Michigan St. Demolition and Infill Development

Thanks – One clarification, though. The County listed below in the response is Leavenworth County. We are in Douglas County. I assume that was just a typo and the consultation was reviewed as Douglas?

Thanks again, I appreciate it!

Dani

Danelle Walters *Housing Initiatives Manager*
dwalters@lawrenceks.org

From: Thornton, Christopher J <christopher_thornton@fws.gov>
Sent: Friday, February 25, 2022 12:54 PM
To: Danelle Walters <dwalters@lawrenceks.org>
Cc: Luginbill, Jason S <jason_luginbill@fws.gov>
Subject: 2022-0000849 105 Michigan St. Demolition and Infill Development

Dear Ms. Walters:

We have reviewed your proposal for residential demolition and infill development at 105 Michigan St Lawrence, Leavenworth County, Kansas.

We focused our review on our authority under the Endangered Species Act and potential effects to any federally listed threatened or endangered species, critical habitats, or species of conservation concern, as well as our other statutory authorities including the Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, Fish and Wildlife Coordination Act, and the National Environmental Policy Act.

We have no concerns with this project with regard to any federally listed threatened or endangered species, critical habitats, or other resources.

Please consider this our official response to your request and thank you for the opportunity to provide review and comment.

Please direct any questions to Chris Thornton at christopher_thornton@fws.gov or 785-539-3474 x 102.

Chris Thornton
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan Kansas 66502
Office: (785) 539-3474 X 102

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

1 Riverfront Plaza, Suite 320
P.O. Box 708
Lawrence, KS
66044-0708

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

February 1, 2022

U.S. Fish and Wildlife Services
Ecological Services Field Office
2609 Anderson Ave.
Manhattan, KS 66502-2801

Dear U.S. Fish and Wildlife Services:

This is a request for consultation regarding NEPA Related Federal Statutes, specifically Endangered Species [50 CFR 402] and Wetland Protection [E.O. 11990, "Protection of Wetlands," particularly sections 2 & 5] and our HOME-funded infill development project at 105 Michigan Street.

The attached packet of project descriptions, maps, and supporting NEPA documents are for activities all within the city limits of Lawrence, Kansas.

It is our understanding that compliance under Section 7 of the Endangered Species Act (ESA) and the Executive Order 11990, Protection of Wetlands, applies only to new construction and conversion activities. The activities in the project include residential infill development of affordable housing.

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

We are seeking determinations as to the potential impact to threatened or endangered species and the potential impact to wetlands with regard to new sidewalk construction on existing residential properties. We have made a preliminary determination of May Affect, not likely to Adversely Affect.

Thank you for your attention to this request,

Danelle Walters

Community Development Manager
Planning & Development Services
City of Lawrence, Kansas 66044
785-832-3108

105 Michigan Street

1/30/2022, 4:42:47 PM

Parcels

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.02 0.04 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

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: January 31, 2022
Project code: 2022-0000849
Project Name: 105 Michigan St. Demolition and Infill Development

Subject: Verification letter for the '105 Michigan St. Demolition and Infill Development' project under the January 5, 2016, Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-eared Bat and Activities Excepted from Take Prohibitions.

Dear Danelle Walters:

The U.S. Fish and Wildlife Service (Service) received on January 31, 2022 your effects determination for the '105 Michigan St. Demolition and Infill Development' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. This IPaC key assists users in determining whether a Federal action is consistent with the activities analyzed in the Service's January 5, 2016, Programmatic Biological Opinion (PBO). The PBO addresses activities excepted from "take"[1] prohibitions applicable to the northern long-eared bat under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, the Action is consistent with activities analyzed in the PBO. The Action may affect the northern long-eared bat; however, any take that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the PBO satisfies and concludes your responsibilities for this Action under ESA Section 7(a)(2) with respect to the northern long-eared bat.

Please report to our office any changes to the information about the Action that you submitted in IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation. If the Action is not completed within one year of the date of this letter, you must update and resubmit the information required in the IPaC key.

This IPaC-assisted determination allows you to rely on the PBO for compliance with ESA Section 7(a)(2) only for the northern long-eared bat. It **does not** apply to the following ESA-protected species that also may occur in the Action area:

- Mead's Milkweed *Asclepias meadii* Threatened
- Monarch Butterfly *Danaus plexippus* Candidate
- Pallid Sturgeon *Scaphirhynchus albus* Endangered
- Western Prairie Fringed Orchid *Platanthera praeclara* Threatened

If the Action may affect other federally listed species besides the northern long-eared bat, a proposed species, and/or designated critical habitat, additional consultation between you and this Service office is required. If the Action may disturb bald or golden eagles, additional coordination with the Service under the Bald and Golden Eagle Protection Act is recommended.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

105 Michigan St. Demolition and Infill Development

2. Description

The following description was provided for the project '105 Michigan St. Demolition and Infill Development':

> Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.981876099999994,-95.25157740853679,14z

Determination Key Result

This Federal Action may affect the northern long-eared bat in a manner consistent with the description of activities addressed by the Service's PBO dated January 5, 2016. Any taking that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o). Therefore, the PBO satisfies your responsibilities for this Action under ESA Section 7(a)(2) relative to the northern long-eared bat.

Determination Key Description: Northern Long-eared Bat 4(d) Rule

This key was last updated in IPaC on May 15, 2017. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for Federal actions is to assist determinations as to whether proposed actions are consistent with those analyzed in the Service’s PBO dated January 5, 2016.

Federal actions that may cause prohibited take of northern long-eared bats, affect ESA-listed species other than the northern long-eared bat, or affect any designated critical habitat, require ESA Section 7(a)(2) consultation in addition to the use of this key. Federal actions that may affect species proposed for listing or critical habitat proposed for designation may require a conference under ESA Section 7(a)(4).

Determination Key Result

This project may affect the threatened Northern long-eared bat; therefore, consultation with the Service pursuant to Section 7(a)(2) of the Endangered Species Act of 1973 (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.) is required. However, based on the information you provided, this project may rely on the Service's January 5, 2016, *Programmatic Biological Opinion on Final 4(d) Rule for the Northern Long-Eared Bat and Activities Excepted from Take Prohibitions* to fulfill its Section 7(a)(2) consultation obligation.

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   Yes

2. Have you determined that the proposed action will have "no effect" on the northern long-eared bat? (If you are unsure select "No")

   No

3. Will your activity purposefully **Take** northern long-eared bats?

   No

4. [Semantic] Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered
   No

5. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases and other sources of information on the locations of northern long-eared bat roost trees and hibernacula is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

6. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

7. Will the action involve Tree Removal?

   Yes

8. Will the action only remove hazardous trees for the protection of human life or property?

   No

9. Will the action remove trees within 0.25 miles of a known northern long-eared bat hibernaculum at any time of year?

   No

10. Will the action remove a known occupied northern long-eared bat maternity roost tree or any trees within 150 feet of a known occupied maternity roost tree from June 1 through July 31?

    No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type ‘0’ in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type ‘0’ in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type ‘0’ in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type ‘0’ in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

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: January 31, 2022
Project Code: 2022-0000849
Project Name: 105 Michigan St. Demolition and Infill Development

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 &nbs

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

Project Code: 2022-0000849
Event Code: None
Project Name: 105 Michigan St. Demolition and Infill Development
Project Type: New Construction
Project Description: Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.981876099999994,-95.25157740853679,14z

Counties: Douglas County, Kansas

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Fishes

NAME	STATUS
Pallid Sturgeon *Scaphirhynchus albus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered

Insects

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

Flowering Plants

NAME	STATUS
Mead's Milkweed *Asclepias meadii*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/8204	
Western Prairie Fringed Orchid *Platanthera praeclara*	Threatened
No critical habitat has been designated for this species.	
Species profile: https://ecos.fws.gov/ecp/species/1669	

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 Act[1] and the Bald and Golden Eagle Protection Act[2].

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
American Golden-plover *Pluvialis dominica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Bald Eagle *Haliaeetus leucocephalus* 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 Aug 31

NAME	BREEDING SEASON
Black-billed Cuckoo *Coccyzus erythropthalmus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31
Henslow's Sparrow *Ammodramus henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds May 1 to Aug 31
Hudsonian Godwit *Limosa haemastica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Kentucky Warbler *Oporornis formosus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
King Rail *Rallus elegans* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8936	Breeds May 1 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

Probability Of Presence Summary

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.

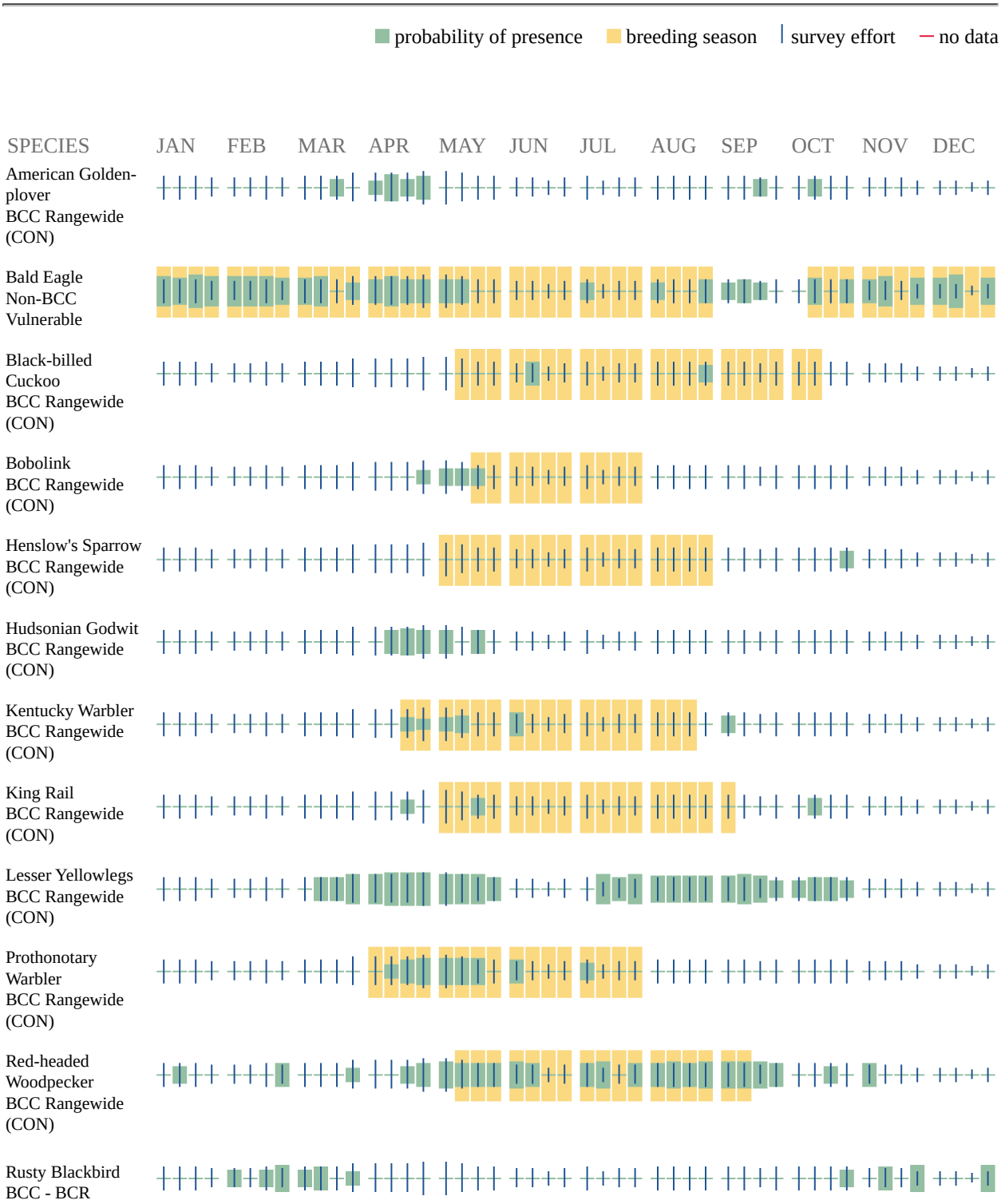
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

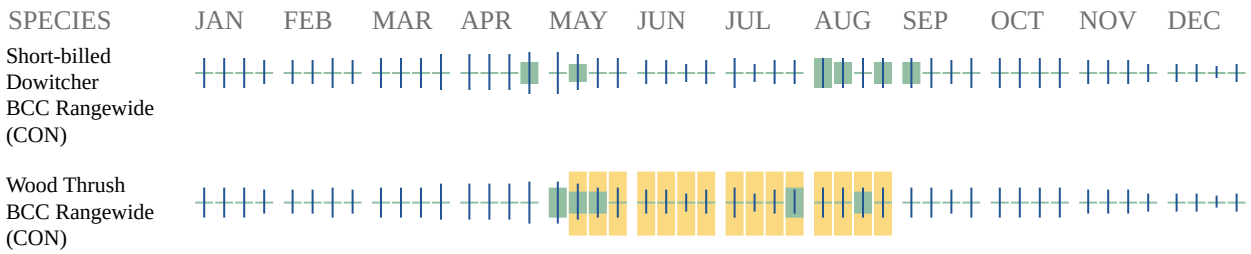
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

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 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.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

105 Michigan St. Demolition And Infill Development

Biological Assessment

Prepared using IPaC

Generated by Danelle Walters (dwalters@lawrenceks.org)

February 1, 2022

The purpose of this Biological Assessment (BA) is to assess the effects of the proposed project and determine whether the project may affect any Federally threatened, endangered, proposed or candidate species. This BA is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)).

In this document, any data provided by U.S. Fish and Wildlife Service is based on data as of February 1, 2022.

Prepared using IPaC version 6.70.0-rc2

105 Michigan St. Demolition And Infill Development Biological Assessment

Table Of Contents

1 Description Of The Action

1.1 Project Name

105 Michigan St. Demolition and Infill Development

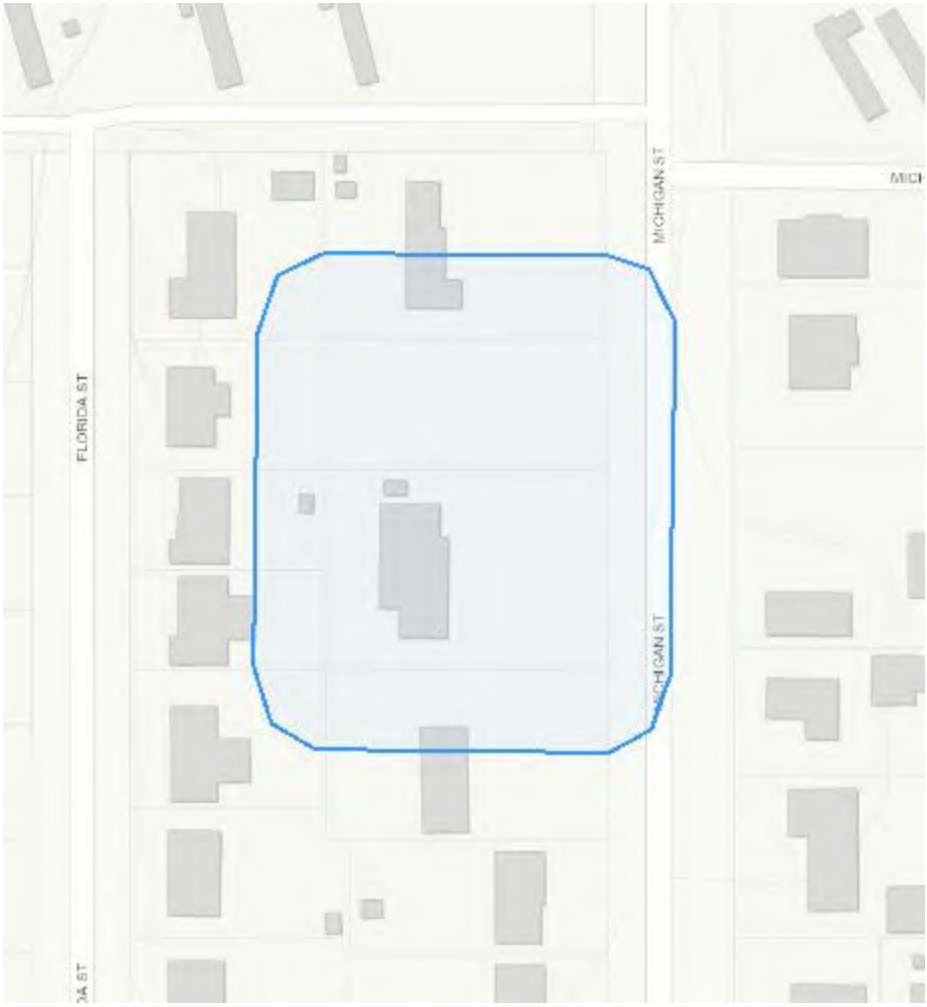
1.2 Executive Summary

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Effect determination summary

1.3 Project Description

1.3.1 Location



LOCATION
Douglas County, Kansas

1.3.2 Description of project habitat

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Relevant documentation

- 105 Michigan map

1.3.3 Project proponent information

Provide information regarding who is proposing to conduct the project, and their contact information. Please provide details on whether there is a Federal nexus.

Requesting Agency
City of Lawrence

FULL NAME
Danelle Walters

STREET ADDRESS
1 Riverfront Plaza Suite 320

CITY	STATE	ZIP
Lawrence	KS	66044

PHONE NUMBER	E-MAIL ADDRESS
(785) 832-3108	dwalters@lawrenceks.org

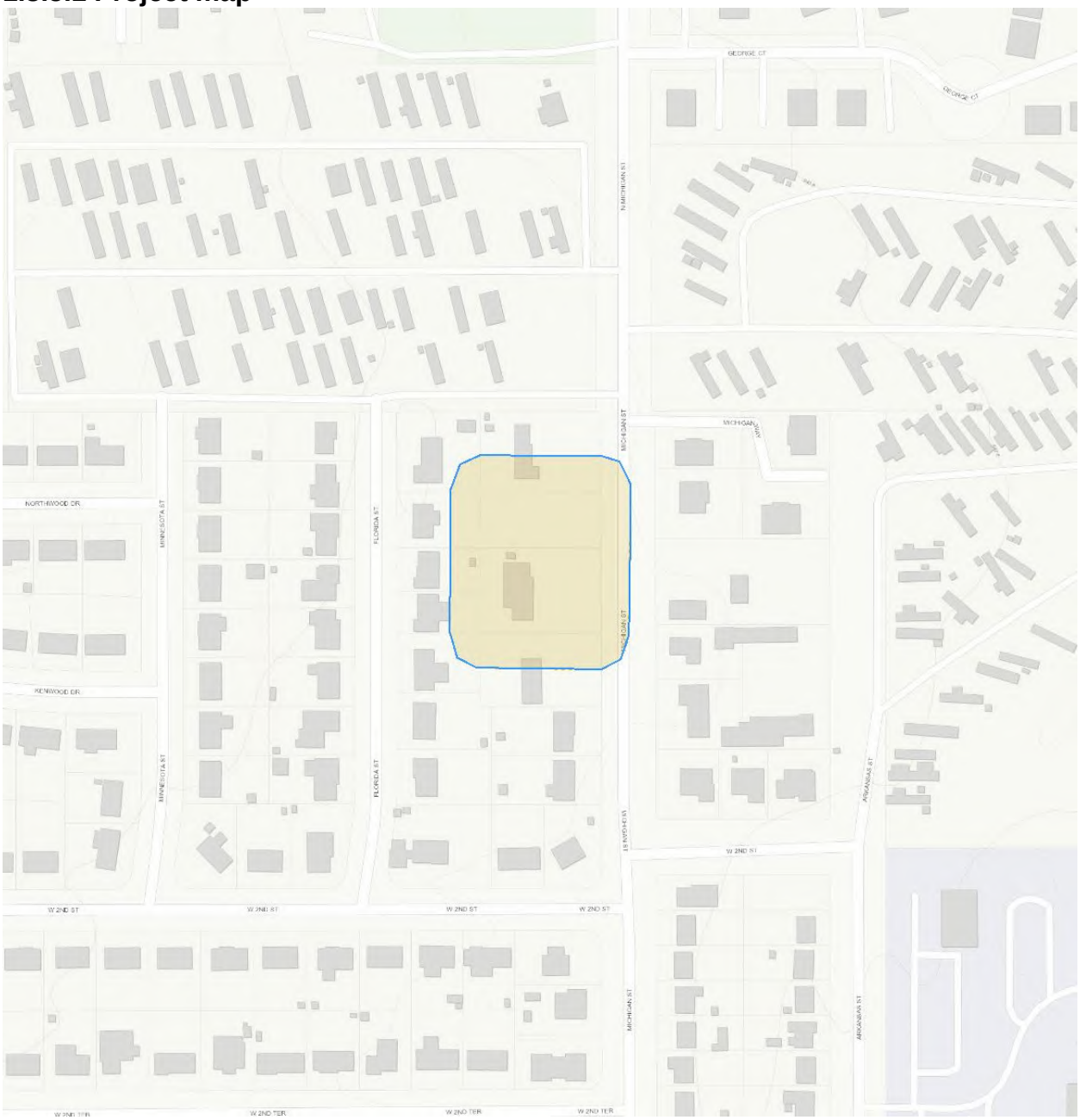
1.3.4 Project purpose

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

1.3.5 Project type and deconstruction

This project is a single family dwelling construction project.

1.3.5.1 Project map



LEGEND

Project footprint

Layer 1: Dwelling units (structure)

1.3.5.2 dwelling units

Structure completion date
December 31, 2022

Removal/decommission date (if applicable)
Not applicable

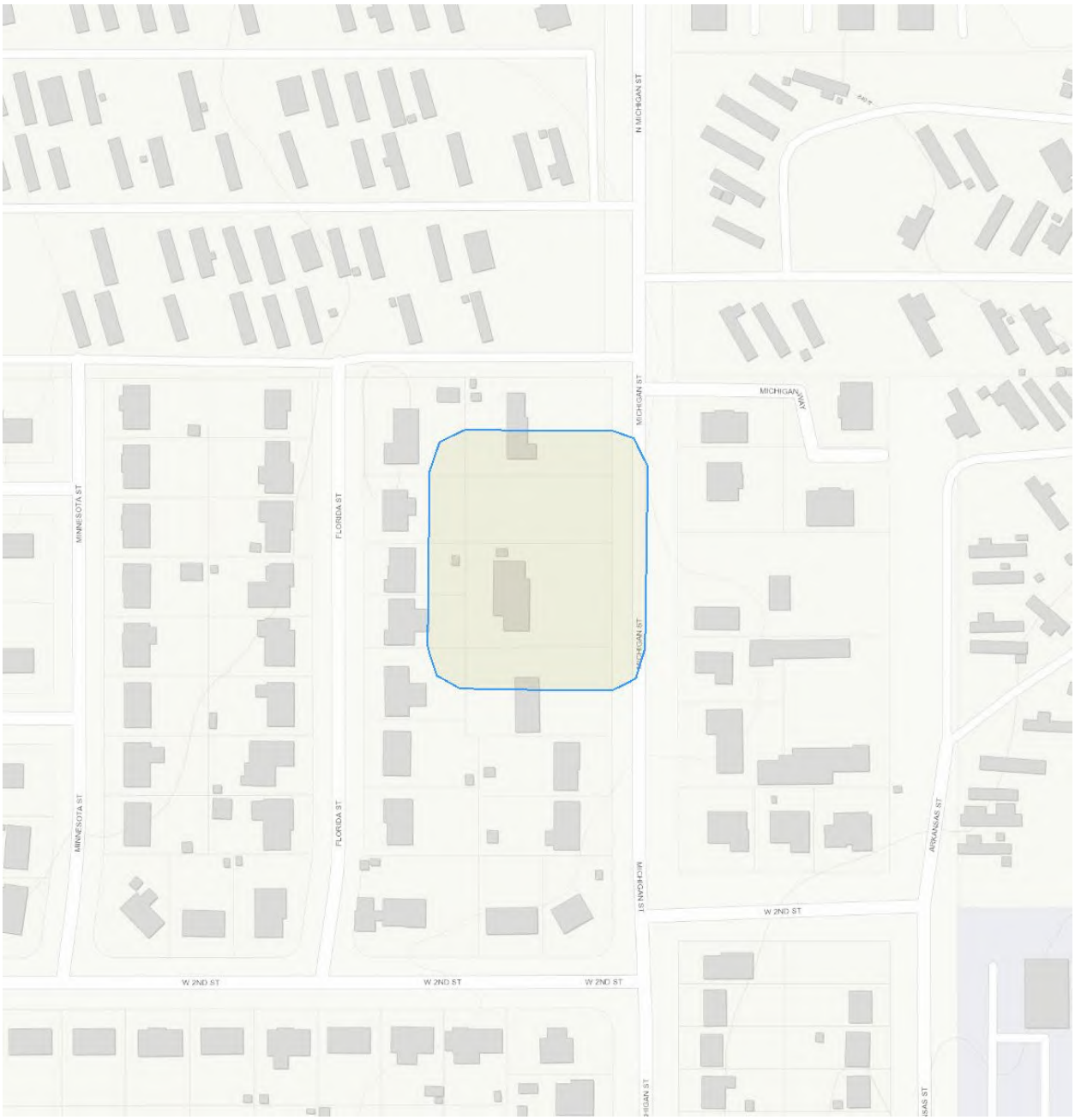
Stressors
This activity is not expected to have any impact on the environment.

Description
Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

1.3.6 Anticipated environmental stressors

Describe the anticipated effects of your proposed project on the aspects of the land, air and water that will occur due to the activities above. These should be based on the activity deconstructions done in the previous section and will be used to inform the action area.

1.4 Action Area



1.5 Conservation Measures

Describe any proposed measures being implemented as part of the project that are designed to reduce the impacts to the environment and their resulting effects to listed species. To avoid extra verbiage, don't list measures that have no relevance to the species being analyzed.

No conservation measures have been selected for this project.

1.6 Prior Consultation History

We have not consulted with the USFWS on this project previously.

1.7 Other Agency Partners And Interested Parties

We have contacted the interested Tribes for Section 106 Historic Preservation review, and have begun consultations with the Historic Resources officer locally, and will pursue consultation from the state SHPO if deemed necessary.

1.8 Other Reports And Helpful Information

There are additional funds being placed in the project through the City's Affordable Housing Trust Fund. This project will remain affordable into perpetuity.

2 Species Effects Analysis

This section describes, species by species, the effects of the proposed action on listed, proposed, and candidate species, and the habitat on which they depend. In this document, effects are broken down as direct interactions (something happening directly to the species) or indirect interactions (something happening to the environment on which a species depends that could then result in effects to the species).

These interactions encompass effects that occur both during project construction and those which could be ongoing after the project is finished. All effects, however, should be considered, including effects from direct and indirect interactions and cumulative effects.

2.1 Mead's Milkweed

This species has been excluded from analysis in this environmental review document.

Relevant documentation

- Douglas-County-Inventory-Report-Final-15Feb2016

Mead's milkweed is a rare plant of the tallgrass prairie that currently is found primarily in eastern Kansas and Missouri. Most populations are very small, but the University of Kansas Field Station manages two prairies (Rockefeller Prairie, Anderson County Prairie Reserve) that have some of the largest populations in Kansas. Most populations occur on dry-mesic to mesic tallgrass prairies that are hayed annually, but a few sites are known to be grazed lightly during the winter. Plants grow most frequently on the middle and upper slopes of ridges and hills that have shallow, well-drained, limestone or (infrequently) sandstone soils.

Justification for exclusion

This lot is not on a tallgrass prairie or on a slope/ridge of a hill.

2.2 Monarch Butterfly

This species has been excluded from analysis in this environmental review document.

Relevant documentation

There will be no work on this project that impacts monarch habitats.

Justification for exclusion

The monarch butterfly's habitat is open fields and meadows with milkweed. This is during the spring and the summer. This project is not in a meadow or open field. It is infill development.

2.3 Pallid Sturgeon

This species has been excluded from analysis in this environmental review document.

Relevant documentation

The project site is not near a waterway.

Justification for exclusion

The project site is not near a waterway.

2.4 Western Prairie Fringed Orchid

This species has been excluded from analysis in this environmental review document.

Relevant documentation

- Douglas-County-Inventory-Report-Final-15Feb2016

The western prairie fringed orchid is most often found in mesic to wet unplowed tallgrass prairies and meadows. In Kansas, western prairie fringed orchids typically inhabit moderate to steep slopes and swales of tallgrass prairie on glacial drift or on level to hilly, unglaciated upland prairies covered with a thin, discontinuous mantle of loess.

Justification for exclusion

The lot is not associated with a moderate to steep slope or swale of tallgrass prairie on glacial drift or on level to hilly, unglaciated upland prairies covered with a thin, discontinuous mantle of loess.

3 Critical Habitat Effects Analysis

No critical habitats intersect with the project action area.

4 Summary Discussion, Conclusion, And Effect Determinations

4.1 Effect Determination Summary

SPECIES (COMMON NAME)	SCIENTIFIC NAME	LISTING STATUS	PRESENT IN ACTION AREA	EFFECT DETERMINATION
Mead's Milkweed	Asclepias meadii	Threatened	No	NE
Monarch Butterfly	Danaus plexippus	Candidate	Excluded from analysis	Excluded from analysis
Northern Long-eared Bat† **. This species or critical habitat is covered by a DKey.**	Myotis septentrionalis	Threatened		MA
Pallid Sturgeon	Scaphirhynchus albus	Endangered	No	NE
Western Prairie Fringed Orchid	Platanthera praeclara	Threatened	No	NE

† This species or critical habitat is covered by a DKey.

4.2 Summary Discussion

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

4.3 Conclusion

This is a standard infill residential development that is in the city limits, not on a slope, and not in a prairie or tall grass location.

Explosive and Flammable Hazards

General requirements	Legislation	Regulation
HUD-assisted projects must meet Acceptable Separation Distance (ASD) requirements to protect them from explosive and flammable hazards.	N/A	24 CFR Part 51 Subpart C

1. Is the proposed HUD-assisted project itself the development of a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?

✓ No

Yes

2. Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?

No

✓ Yes

3. Within 1 mile of the project site, are there any current or planned stationary aboveground storage containers that are covered by 24 CFR 51C? Containers that are NOT covered under the regulation include:

- **Containers 100 gallons or less in capacity, containing common liquid industrial fuels OR**
- **Containers of liquified petroleum gas (LPG) or propane with a water volume capacity of 1,000 gallons or less that meet the requirements of the 2017 or later version of National Fire Protection Association (NFPA) Code 58.**

If all containers within the search area fit the above criteria, answer "No." For any other type of aboveground storage container within the search area that holds one of the flammable or explosive materials listed in Appendix I of 24 CFR part 51 subpart C, answer "Yes."

No

✓ Yes

4. Based on the analysis, is the proposed HUD-assisted project located at or beyond the required separation distance from all covered tanks?

✓ Yes

Based on the response, the review is in compliance with this section.

No

Screen Summary

Compliance Determination

There are five current stationary aboveground storage containers of concern within 1 mile of the project site. There is a 13,500 gallon Carbon Dioxide AST located 2,189' to the SE at 720 W 3rd Street. The Acceptable Separation Distance (ASD) for Thermal Radiation for People is 817.89' and the ASD for Thermal Radiation for Buildings is 167.48'. There is a 10,000 gallon Fuel Oil #2 AST located 2,202' to the NW at 101 McDonald Drive. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'. There is a 10,000 gallon Diesel AST located 2,656' to the N at 345 N Michigan Street. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'. There is a 500 gallon Used Oil AST located 4,686' to the NE at 2201 Kresge Road. The ASD for Thermal Radiation for People is 207.20' and the ASD for Thermal Radiation for Buildings is 36.50'. There is a 1,000 gallon Diesel AST located 5,211' to the SE at 1 Riverfront Plaza. The ASD for Thermal Radiation for People is 276.57' and the ASD for Thermal Radiation for Buildings is 50.28'. The Separation Distances from the project are acceptable. There are no planned stationary aboveground storage containers of concern within 1 mile of the project site. The project is in compliance with explosive and flammable hazard requirements.

Supporting documentation

Explosive and Flammable Facilities 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Explosive and Flammable Hazards (CEST and EA)

General requirements	Legislation	Regulation
HUD-assisted projects must meet Acceptable Separation Distance (ASD) requirements to protect them from explosive and flammable hazards.	N/A	24 CFR Part 51 Subpart C
Reference		
https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities		

1. **Is the proposed HUD-assisted project itself the development of a hazardous facility (a facility that mainly stores, handles or processes flammable or combustible chemicals such as bulk fuel storage facilities and refineries)?**

   ☒ No

   → *Continue to Question 2.*

2. **Does this project include any of the following activities: development, construction, rehabilitation that will increase residential densities, or conversion?**

   ☒ Yes

   → *Continue to Question 3.*

3. **Within 1 mile of the project site, are there any current *or planned* stationary aboveground storage containers that are covered by 24 CFR 51C? Containers that are NOT covered under the regulation include:**
   - **Containers 100 gallons or less in capacity, containing common liquid industrial fuels OR**
   - **Containers of liquified petroleum gas (LPG) or propane with a water volume capacity of 1,000 gallons or less that meet the requirements of the 2017 or later version of National Fire Protection Association (NFPA) Code 58.**

   If all containers within the search area fit the above criteria, answer "no." For any other type of aboveground storage container within the search area that holds one of the flammable or explosive materials listed in Appendix I of 24 CFR part 51 subpart C, answer "yes."

   ☒ Yes

   → *Continue to Question 4.*

4. **Visit HUD's website to identify the appropriate tank or tanks to assess and to calculate the required separation distance using the electronic assessment tool. To document this step in the analysis, please attach the following supporting documents to this screen:**
   - **Map identifying the tank selected for assessment, and showing the distance from the tank to the proposed HUD-assisted project site; and**
   - **Electronic assessment tool calculation of the required separation distance.**

   Based on the analysis, is the proposed HUD-assisted project site located at or beyond

the required separation distance from all covered tanks?

☒ Yes

→ *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

There are five current stationary aboveground storage containers of concern within 1 mile of the project site.

There is a 13,500 gallon Carbon Dioxide AST located 2,189' to the SE at 720 W 3rd Street. The Acceptable Separation Distance (ASD) for Thermal Radiation for People is 817.89' and the ASD for Thermal Radiation for Buildings is 167.48'.

There is a 10,000 gallon Fuel Oil #2 AST located 2,202' to the NW at 101 McDonald Drive. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'.

There is a 10,000 gallon Diesel AST located 2,656' to the N at 345 N Michigan Street. The ASD for Thermal Radiation for People is 721.77' and the ASD for Thermal Radiation for Buildings is 145.78'.

There is a 500 gallon Used Oil AST located 4,686' to the NE at 2201 Kresge Road. The ASD for Thermal Radiation for People is 207.20' and the ASD for Thermal Radiation for Buildings is 36.50'.

There is a 1,000 gallon Diesel AST located 5,211' to the SE at 1 Riverfront Plaza. The ASD for Thermal Radiation for People is 276.57' and the ASD for Thermal Radiation for Buildings is 50.28'.

The Separation Distances from the project are acceptable.

There are no planned stationary aboveground storage containers of concern within 1 mile of the project site.

The project is in compliance with explosive and flammable hazard requirements.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

105 Michigan St distance to 720 W 3rd AST - 2189'

2/3/2022, 11:48:02 AM

Parcels

1:4,514

0 0.03 0.06 0.12 mi

0 0.05 0.1 0.19 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☑ **No:** ☐
Does the container hold a cryogenic liquified gas?	**Yes:** ☑ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	13500
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	817.89
ASD for Thermal Radiation for Buildings (ASDBPU)	167.48
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

105 Michigan St distance to 101 McDonald Dr - 2030'

2/3/2022, 2:31:40 PM

Parcels

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	45029	45029	HALLMARK CARDS	101 MCDONALD, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

Permitted : Temporary Permit : Pending Permit : Not Permitted :

Currently Permitted	TankNum	TankCapa	Substanc	Status	Permit Number	Permit Start	Permit Issue	Permit Effective Date	Installed	Exempt	StandBy
✓	A001	10000	Fuel Oil No. 2 (Cercla/C No: 68476-30-2 (Fire, Chronic, Acute))	Current in Use	AST-004535	In Effect	5/27/2021	8/1/2021	1996	No	

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KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	45029	45029	HALLMARK CARDS	101 MCDONALD, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

KORA UST | KORA UST Lines | KORA AST | KORA AST Lines

KORA AST Information

Tank: A001

- **Permit Issued Date:** 8/1/2021 12:00:00 AM
- **Permit Expiration Date:** 7/31/2022 12:00:00 AM
- **Site Name:** HALLMARK CARDS
- **Facility ID:** 45029
- **Owner ID:** 45029
- **Tank Number:** A001
- **Status:** Current in Use
- **Compartments:**
- **Temp Permit:**
- **Temp Permit Issue Date:**
- **Temp permit Expiration Date:**
- **Temp Permit Reason:**
- **Capacity in Gallons:** 10000
- **Substance:** Fuel Oil No. 2 (Cercla/CAS No: 68476-30-2 (Fire, Chronic, Acute))
- **Filled/Removed:**
- **Last Use:**
- **Substance Code:** 68476-30-2
- **Year in Service:** 1996
- **Tank Exempt:** No
- **Marketer:**
- **Standby:**
- **Material of Construction:**
- **Manufacturer:**
- **External Protection:**
- **Internal Protection:**
- **Substance Not in List:**
- **Substance Petroleum:** Yes
- **Hazard Type:** Acute, Chronic, Fire
- **Used Oil:**
- **Non-Regulated Substance:**
- **Financial Responsibility:**
- **Financial Responsibility Exp Date:**
- **Release Detection:**
- **Secondary Release Detection:**
- **Service Model Secondary:**
- **Tightness Detection Date:**
- **Service Model:**
- **Console Test Date:**
- **Sensor Test Date:**
- **Interstitial Sensor Test Date:**
- **Manifolded:**
- **Manifolded Tank:**
- **Internal Lining:**
- **Installed Date:**
- **Internal Lining Inspection Date:**
- **Internal Inspection:**
- **Repaired:**
- **Corrosion Pro:**
- **Corrosion Pro Installation:**
- **Corrosion Pro Test Date:**
- **Corrosion Pro Repair Date:**
- **Corrosion Pro Log:**
- **Flex Con:**
- **Flex Con Cor Pro Installation Date:**
- **Flex Con Cor Pro Test Date:**
- **Flex Con Rectifier Log Date:**
- **Over-Fill Exempt:**
- **Over-Fill Prevention Type:**
- **Over-Fill Test Date Audio:**
- **Over-Fill Test Date Auto Shutoff:**
- **Spill Prevention:**
- **Secondary Interstitial Monitor Test:**
- **Secondary Intersitial Sensor Test:**
- **Has Transition Sump:**
- **Pump Containment:**
- **Pump Type:**
- **Monthly Monitoring Date:**
- **Inventory Control Date:**
- **Tank Leak:**
- **Leak Water:**
- **Drop Tubes:**
- **Walk Through Check List:**

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Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	10000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	721.77
ASD for Thermal Radiation for Buildings (ASDBPU)	145.78
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

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Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

105 Michigan St distance to 345 N Michigan St - 2656'

2/3/2022, 12:36:23 PM

Parcels

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	26565	26564	LAWRENCE MAINT. M.P. 202	345 N. MICHIGAN, M.P. 202, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

Permitted : Temporary Permit : Pending Permit : Not Permitted :

Currently Permitted	TankNum	TankCapa	Substanc	Status	Permit Number	Permit Start	Permit Issue	Permit Effective Date	Installed	Exempt	StandBy
✓	A001	10000	Gasoline Unleaded Regular	Current in Use	AST-005057	In Effect	11/8/2021	11/8/2021	2021	No	No
✓	A002	10000	Diesel (Cercla/C No: 68476-34-6 (Fire, Chronic, Acute))	Current in Use	AST-005057	In Effect	11/8/2021	11/8/2021	2021	No	No

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KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	26565	26564	LAWRENCE MAINT. M.P. 202	345 N. MICHIGAN, M.P. 202, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

KORA UST | KORA UST Lines | KORA AST | KORA AST Lines

KORA AST Information

Tank: A001

- **Permit Issued Date:** 11/8/2021 12:00:00 AM
- **Permit Expiration Date:** 7/31/2022 12:00:00 AM
- **Site Name:** LAWRENCE MAINT. M.P. 202
- **Facility ID:** 26565
- **Owner ID:** 26564
- **Tank Number:** A001
- **Status:** Current in Use
- **Compartments:**
- **Temp Permit:**
- **Temp Permit Issue Date:**
- **Temp permit Expiration Date:**
- **Temp Permit Reason:**
- **Capacity in Gallons:** 10000
- **Substance:** Gasoline Unleaded Regular
- **Filled/Removed:**
- **Last Use:**
- **Substance Code:** 8006-91-4
- **Year in Service:** 2021
- **Tank Exempt:** No
- **Marketer:** No
- **Standby:** No
- **Material of Construction:** Double Wall
- **Manufacturer:** MID SOUTH STEEL
- **External Protection:** Painted
- **Internal Protection:**
- **Substance Not in List:**
- **Substance Petroleum:** Yes
- **Hazard Type:** Acute, Chronic, Fire
- **Used Oil:** Non-Regulated
- **Substance:**
- **Financial Responsibility:**
- **Financial Responsibility Exp Date:**
- **Release Detection:**
- **Secondary Release Detection:**
- **Tightness Detection Date:**
- **Service Model:**
- **Console Test Date:**
- **Sensor Test Date:**
- **Interstitial Sensor Test Date:**
- **Manifolded:**
- **Manifolded Tank:**
- **Internal Lining:**
- **Installed Date:**
- **Internal Lining Inspection Date:**
- **Internal Inspection:**
- **Repaired:**
- **Corrosion Pro:**
- **Corrosion Pro Installation:**
- **Corrosion Pro Test Date:**
- **Corrosion Pro Repair Date:**
- **Corrosion Pro Log:**
- **Flex Con:**
- **Flex Con Cor Pro Installation Date:**
- **Flex Con Cor Pro Test Date:**
- **Flex Con Rectifier Log Date:**
- **Over-Fill Exempt:**
- **Over-Fill Prevention Type:**
- **Over-Fill Test Date**
- **Audio:**
- **Over-Fill Test Date**
- **Auto Shutoff:**
- **Spill Prevention:**
- **Secondary Interstitial Monitor Test:**
- **Secondary Intersitial Sensor Test:**
- **Has Transition Sump:**
- **Pump Containment:**
- **Pump Type:**
- **Monthly Monitoring Date:**
- **Inventory Control Date:**
- **Tank Leak:**
- **Leak Water:**
- **Drop Tubes:**
- **Walk Through Check List:**

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Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code

- **Service Model**
- **Secondary:**

Tank: A002

- **Permit Issued Date:** 11/8/2021 12:00:00 AM
- **Permit Expiration Date:** 7/31/2022 12:00:00 AM
- **Site Name:** LAWRENCE MAINT. M.P. 202
- **Facility ID:** 26565
- **Owner ID:** 26564
- **Tank Number:** A002
- **Status:** Current in Use
- **Compartments:**
- **Temp Permit:**
- **Temp Permit Issue Date:**
- **Temp permit Expiration Date:**
- **Temp Permit Reason:**
- **Capacity in Gallons:** 10000
- **Substance:** Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))
- **Filled/Removed:**
- **Last Use:**
- **Substance Code:** 68476-34-6
- **Year in Service:** 2021
- **Tank Exempt:** No
- **Marketer:** No
- **Standby:** No
- **Material of Construction:** Double Wall
- **Manufacturer:** MID SOUTH STEEL
- **External Protection:** Painted
- **Internal Protection:**
- **Substance Not in List:**
- **Substance Petroleum:** Yes
- **Hazard Type:** Acute, Chronic, Fire
- **Used Oil:**
- **Non-Regulated Substance:**
- **Financial Responsibility:**
- **Financial Responsibility Exp Date:**
- **Release Detection:**
- **Secondary Release Detection:**
- **Service Model**
- **Secondary:**
- **Tightness Detection Date:**
- **Service Model:**
- **Console Test Date:**
- **Sensor Test Date:**
- **Interstitial Sensor Test Date:**
- **Manifolded:**
- **Manifolded Tank:**
- **Internal Lining:**
- **Installed Date:**
- **Internal Lining Inspection Date:**
- **Internal Inspection:**
- **Repaired:**
- **Corrosion Pro:**
- **Corrosion Pro Installation:**
- **Corrosion Pro Test Date:**
- **Corrosion Pro Repair Date:**
- **Corrosion Pro Log:**
- **Flex Con:**
- **Flex Con Cor Pro Installation Date:**
- **Flex Con Cor Pro Test Date:**
- **Flex Con Rectifier Log Date:**
- **Over-Fill Exempt:**
- **Over-Fill Prevention Type:**
- **Over-Fill Test Date**
- **Audio:**
- **Over-Fill Test Date**
- **Auto Shutoff:**
- **Spill Prevention:**
- **Secondary Interstitial Monitor Test:**
- **Secondary Intersitial Sensor Test:**
- **Has Transition Sump:**
- **Pump Containment:**
- **Pump Type:**
- **Monthly Monitoring Date:**
- **Inventory Control Date:**
- **Tank Leak:**
- **Leak Water:**
- **Drop Tubes:**
- **Walk Through Check List:**

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Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	10000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	721.77
ASD for Thermal Radiation for Buildings (ASDBPU)	145.78
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

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Please send comments or other input using the **Contact Us (https://www.hudexchange.info/contact-us/)** form.

Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

105 Michigan St distance to 2101 Kresge Rd - 4686'

2/3/2022, 11:55:36 AM

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

Acceptable Separation Distance (ASD) Electronic Assessment Tool

The Environmental Planning Division (EPD) has developed an electronic-based assessment tool that calculates the Acceptable Separation Distance (ASD) from stationary hazards. The ASD is the distance from above ground stationary containerized hazards of an explosive or fire prone nature, to where a HUD assisted project can be located. The ASD is consistent with the Department's standards of blast overpressure (0.5 psi-buildings) and thermal radiation (450 BTU/ft^2 - hr - people and 10,000 BTU/ft^2 - hr - buildings). Calculation of the ASD is the first step to assess site suitability for proposed HUD-assisted projects near stationary hazards. Additional guidance on ASDs is available in the Department's guidebook "Siting of HUD- Assisted Projects Near Hazardous Facilities" and the regulation 24 CFR Part 51, Subpart C, Sitting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	500
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	207.20
ASD for Thermal Radiation for Buildings (ASDBPU)	36.50
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

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Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

105 Michigan St distance to 1 Riverfront Plaza - 5211'

2/3/2022, 2:23:41 PM

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	43710	44054	RIVERFRONT PLAZA	30-12-20E, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

Permitted : Temporary Permit : Pending Permit : Not Permitted :

Currently Permitted	TankNum	TankCapa	Substanc	Status	Permit Number	Permit Start	Permit Issue	Permit Effective Date	Installed	Exempt	StandBy
✓	A001	1000	Diesel (Cercla/C No: 68476-34-6 (Fire, Chronic, Acute))	Current in Use	AST-003441	In Effect	3/31/2021	8/1/2021	1999	No	

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KDHE.ks.gov (https://www.kdheks.gov/) - - BerTank Search

Clear Filters | Reset Page

	Tank Facility ID	Owner ID	Site Name	Site Address	Site County	District Code
▼	43710	44054	RIVERFRONT PLAZA	30-12-20E, LAWRENCE, KS, 66044, US	Douglas	NEDO

UST | AST | Site Owner | Tank Inspection Info | KORA Information

KORA UST | KORA UST Lines | KORA AST | KORA AST Lines

KORA AST Information

Tank: A001

- **Permit Issued Date:** 8/1/2021 12:00:00 AM
- **Permit Expiration Date:** 7/31/2022 12:00:00 AM
- **Site Name:** RIVERFRONT PLAZA
- **Facility ID:** 43710
- **Owner ID:** 44054
- **Tank Number:** A001
- **Status:** Current in Use
- **Compartments:**
- **Temp Permit:**
- **Temp Permit Issue Date:**
- **Temp permit Expiration Date:**
- **Temp Permit Reason:**
- **Capacity in Gallons:** 1000
- **Substance:** Diesel (Cercla/CAS No: 68476-34-6 (Fire, Chronic, Acute))
- **Filled/Removed:**
- **Last Use:**
- **Substance Code:** 68476-34-6
- **Year in Service:** 1999
- **Tank Exempt:** No
- **Marketer:**
- **Standby:**
- **Material of Construction:** Unknown
- **Manufacturer:**
- **External Protection:**
- **Internal Protection:**
- **Substance Not in List:**
- **Substance Petroleum:** Yes
- **Hazard Type:** Fire
- **Used Oil:**
- **Non-Regulated Substance:**
- **Financial Responsibility:**
- **Financial Responsibility Exp Date:**
- **Release Detection:**
- **Secondary Release Detection:**
- **Service Model Secondary:**
- **Tightness Detection Date:**
- **Service Model:**
- **Console Test Date:**
- **Sensor Test Date:**
- **Interstitial Sensor Test Date:**
- **Manifolded:**
- **Manifolded Tank:**
- **Internal Lining:**
- **Installed Date:**
- **Internal Lining Inspection Date:**
- **Internal Inspection:**
- **Repaired:**
- **Corrosion Pro:**
- **Corrosion Pro Installation:**
- **Corrosion Pro Test Date:**
- **Corrosion Pro Repair Date:**
- **Corrosion Pro Log:**
- **Flex Con:**
- **Flex Con Cor Pro Installation Date:**
- **Flex Con Cor Pro Test Date:**
- **Flex Con Rectifier Log Date:**
- **Over-Fill Exempt:**
- **Over-Fill Prevention Type:**
- **Over-Fill Test Date Audio:**
- **Over-Fill Test Date Auto Shutoff:**
- **Spill Prevention:**
- **Secondary Interstitial Monitor Test:**
- **Secondary Intersitial Sensor Test:**
- **Has Transition Sump:**
- **Pump Containment:**
- **Pump Type:**
- **Monthly Monitoring Date:**
- **Inventory Control Date:**
- **Tank Leak:**
- **Leak Water:**
- **Drop Tubes:**
- **Walk Through Check List:**

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Acceptable Separation Distance (ASD) Electronic Assessment Tool

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Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the ASD result fields with the mouse.

Acceptable Separation Distance Assessment Tool

Is the container above ground?	**Yes:** ☑ **No:** ☐
Is the container under pressure?	**Yes:** ☐ **No:** ☑
Does the container hold a cryogenic liquified gas?	**Yes:** ☐ **No:** ☐
Is the container diked?	**Yes:** ☐ **No:** ☑
What is the volume (gal) of the container?	1000
What is the Diked Area Length (ft)?	
What is the Diked Area Width (ft)?	
Calculate Acceptable Separation Distance	
Diked Area (sqft)	
ASD for Blast Over Pressure (ASDBOP)	

ASD for Thermal Radiation for People (ASDPPU)	276.57
ASD for Thermal Radiation for Buildings (ASDBPU)	50.28
ASD for Thermal Radiation for People (ASDPNPD)	
ASD for Thermal Radiation for Buildings (ASDBNPD)	

For mitigation options, please click on the following link: Mitigation Options **(/resource/3846/acceptable-separation-distance-asd-hazard-mitigation-options/)**

Providing Feedback & Corrections

After using the ASD Assessment Tool following the directions in this User Guide, users are encouraged to provide feedback on how the ASD Assessment Tool may be improved. Users are also encouraged to send comments or corrections for the improvement of the tool.

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Related Information

- **ASD User Guide (/resource/3839/acceptable-separation-distance-asd-assessment-tool-user-guide/)**
- **ASD Flow Chart (/resource/3840/acceptable-separation-distance-asd-flowchart/)**

Farmlands Protection

General requirements	Legislation	Regulation
The Farmland Protection Policy Act (FPPA) discourages federal activities that would convert farmland to nonagricultural purposes.	Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.)	7 CFR Part 658

1. Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?

Yes

✓ No

If your project includes new construction, acquisition of undeveloped land or conversion, explain how you determined that agricultural land would not be converted:

According to NEPAssist, the project site is located in an urbanized area, and based on the project description, the project does not include new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use.

Based on the response, the review is in compliance with this section. Document and upload all documents used to make your determination below.

Screen Summary

Compliance Determination

According to NEPAssist, the project site is located in an urbanized area, and based on the project description, the project does not include new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Policy Act. See attached Farmlands Protection Worksheet packet.

Supporting documentation

Farmlands Protection 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Farmlands Protection (CEST and EA)

General requirements	Legislation	Regulation
The Farmland Protection Policy Act (FPPA) discourages federal activities that would convert farmland to nonagricultural purposes.	Farmland Protection Policy Act of 1981 (7 U.S.C. 4201 et seq.)	7 CFR Part 658
Reference		
https://www.hudexchange.info/environmental-review/farmlands-protection		

1. **Does your project include any activities, including new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use?**

☒No

Explain how you determined that agricultural land would not be converted:

According to NEPAssist, the project site is located in an urbanized area, and based on the project description, the project does not include new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use.

→ *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide any documentation supporting your determination.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

According to NEPAssist, the project site is located in an urbanized area, and based on the project description, the project does not include new construction, acquisition of undeveloped land or conversion, that could convert agricultural land to a non-agricultural use. The project is in compliance with the Farmland Policy Act.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Urbanized Areas - Lawrence, KS

January 21, 2022

105 Michigan St

Urbanized Areas

1:72,224

0 0.5 1 2 mi

0 0.75 1.5 3 km

CITY OF LAWRENCE DG CO KS, Earthstar Geographics, City of Lawrence,

Floodplain Management

General Requirements	Legislation	Regulation
Executive Order 11988, Floodplain Management, requires federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable.	Executive Order 11988	24 CFR 55

1. Do any of the following exemptions apply? Select the applicable citation? [only one selection possible]

55.12(c)(3)
55.12(c)(4)
55.12(c)(5)
55.12(c)(6)
55.12(c)(7)
55.12(c)(8)
55.12(c)(9)
55.12(c)(10)
55.12(c)(11)
✓ None of the above

2. Upload a FEMA/FIRM map showing the site here:

105 Michigan St FEMA FIRMette 20045C0157E effective 9-2-15.pdf

The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs). For projects in areas not mapped by FEMA, use **the best available information** to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site.

Does your project occur in a floodplain?

✓ No

Based on the response, the review is in compliance with this section.

Yes

Screen Summary

Compliance Determination

This project does not occur in a floodplain. The project is in compliance with Executive Order 11988. See attached FEMA/FIRMette map 20045C0157E (effective 9/2/15).

Supporting documentation

Floodplain Management 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Floodplain Management (CEST and EA)

General Requirements	Legislation	Regulation
Executive Order 11988, Floodplain Management, requires Federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable.	Executive Order 11988	24 CFR 55
Reference		
https://www.hudexchange.info/environmental-review/floodplain-management		

1. **Does 24 CFR 55.12(c) exempt this project from compliance with HUD's floodplain management regulations in Part 55?**
   ☒ No → *Continue to Question 2.*

2. **Provide a FEMA/FIRM or ABFE map showing the site.**
   The Federal Emergency Management Agency (FEMA) designates floodplains. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs) or Advisory Base Flood Elevations (ABFEs). For projects in areas not mapped by FEMA, use the best available information to determine floodplain information. Include documentation, including a discussion of why this is the best available information for the site.
   Does your project occur in a floodplain?
   ☒ No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

This project does not occur in a floodplain. The project is in compliance with Executive Order 11988. See attached FEMA/FIRMette map 20045C0157E (effective 9/2/15).

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

National Flood Hazard Layer FIRMette

FEMA

95°15'25"W 38°59'8"N

95°14'47"W 38°58'40"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/14/2022 at 5:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Historic Preservation

General requirements	Legislation	Regulation
Regulations under Section 106 of the National Historic Preservation Act (NHPA) require a consultative process to identify historic properties, assess project impacts on them, and avoid, minimize, or mitigate adverse effects	Section 106 of the National Historic Preservation Act (16 U.S.C. 470f)	36 CFR 800 "Protection of Historic Properties" https://www.govinfo.gov/content/pkg/CFR-2012-title36-vol3/pdf/CFR-2012-title36-vol3-part800.pdf

Threshold

Is Section 106 review required for your project?

No, because the project consists solely of activities listed as exempt in a Programmatic Agreement (PA). (See the PA Database to find applicable PAs.)

No, because the project consists solely of activities included in a No Potential to Cause Effects memo or other determination [36 CFR 800.3(a)(1)].

✓ Yes, because the project includes activities with potential to cause effects (direct or indirect).

Step 1 – Initiate Consultation

Select all consulting parties below (check all that apply):

✓ State Historic Preservation Offer (SHPO) Completed

✓ Indian Tribes, including Tribal Historic Preservation Officers (THPOs) or Native Hawaiian Organizations (NHOs)

✓ Absentee-Shawnee Tribe of Indians of Oklahoma	Response Period Elapsed
✓ Cheyenne and Arapaho Tribes, Oklahoma	Response Period Elapsed
✓ Delaware Nation, Oklahoma	Response Period Elapsed
✓ Delaware Tribe of Indians	Response Period Elapsed
✓ Eastern Shawnee Tribe of Oklahoma	Completed
✓ Little Traverse Bay Band of Odawa Indians, MI	Response Period Elapsed
✓ Osage Nation	Completed
✓ Prairie Band Potawatomi Nation	Response Period Elapsed
✓ Seneca-Cayuga Nation	Response Period Elapsed
✓ Wichita and Affiliated Tribes	Response Period Elapsed

Other Consulting Parties

Describe the process of selecting consulting parties and initiating consultation here:

A letter was sent to the Tribes outlining the project and included maps and additional information. The Eastern Shawnee Tribe of Oklahoma responded ''the project proposes NO Adverse Effect or endangerment to known sites of interest to the Eastern Shawnee Tribe.'' The Osage Nation requested a Phase I Cultural Resources Survey be completed. The received responses are attached.

Document and upload all correspondence, notices and notes (including comments and objections received below).

Was the Section 106 Lender Delegation Memo used for Section 106 consultation?

Yes
No

Step 2 – Identify and Evaluate Historic Properties

1. **Define the Area of Potential Effect (APE), either by entering the address(es) or uploading a map depicting the APE below:**
   The address is 105 Michigan Street Lawrence, KS 66044.

   In the chart below, list historic properties identified and evaluated in the APE. Every historic property that may be affected by the project should be included in the chart.

   Upload the documentation (survey forms, Register nominations, concurrence(s) and/or

objection(s), notes, and photos) that justify your National Register Status determination below.

Address / Location / District	National Register Status	SHPO Concurrence	Sensitive Information

Additional Notes:

Subject: 105 Michigan Street, Lawrence, Kansas. The property located at 105 Michigan Street is comprised of two platted lots (Lots 2 and 3) as part of the Northwood Addition No. 2 platted in 1959. There is an existing structure located on Lot 3. The structure was constructed in 1957 prior to the plat and is a ranch style structure. The structure is not individually eligible for listing in the National, State, or Lawrence registers. Structures in the block date from 1900 to 1985. There is not sufficient integrity in the block for a historic district. The demolition of the structure and redevelopment of the lot will have no adverse effect on any historic property or property listed in the National Register of Historic Places, the Register of Historic Kansas Places, or the Lawrence Register of Historic Places. The SHPO has concurred that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register.

2. **Was a survey of historic buildings and/or archeological sites done as part of the project?**

✓ Yes

Document and upload surveys and report(s) below.
For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological Investigations in HUD Projects.

Additional Notes:

The Osage Nation Tribal Historic Preservation Office requested a cultural resources survey of the area of potential effects. KB Archaeological Consulting, Lawrence, Kansas, was contracted by Tenants to Homeowners Inc and the City of Lawrence to carry out the survey. The proposed development is located at 105 N. Michigan Street located in a residential area within city limits of Lawrence, Kansas. A review of archival material and the Kansas Archaeological Site Inventory and the National Register of Historic Places databases found no archaeological sites or historic properties documented in the project area. Field survey was conducted on April 25, 2022 and included systematic shovel testing over the entire area of potential effects. No precontact or historic cultural materials were observed during the field

investigation, either on the surface or in subsurface tests. A residential building standing on the lot is determined during this investigation to be ineligible for listing on the National Register of Historic Places. This survey concludes with the recommendation that the proposed undertaking will have no adverse effects to historic properties. A copy of the completed survey was delivered to the Osage Nation on May 16, 2022. No response was received. Attached is a copy of the completed survey.

No

Step 3 –Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5)] Consider direct and indirect effects as applicable as per guidance on direct and indirect effects.

Choose one of the findings below - No Historic Properties Affected, No Adverse Effect, or Adverse Effect; and seek concurrence from consulting parties.

No Historic Properties Affected

✓ No Adverse Effect

Based on the response, the review is in compliance with this section.
Document reason for finding:

The SHPO has determined that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register.

Does the No Adverse Effect finding contain conditions?

Yes (check all that apply)

✓ No

Based on the response, the review is in compliance with this section. Document and upload

concurrence(s) or objection(s) below.

Adverse Effect

Screen Summary

Compliance Determination

Based on Section 106 consultation the project will have No Adverse Effect on historic properties. Conditions: None. Upon satisfactory implementation of the conditions, which should be monitored, the project is in compliance with Section 106. See attached Historic Preservation Worksheet packet.

Supporting documentation

Historic Preservation Worksheet 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Historic Preservation (CEST and EA)

General requirements	Legislation	Regulation
Regulations under Section 106 of the National Historic Preservation Act (NHPA) require a consultative process to identify historic properties, assess project impacts on them, and avoid, minimize, or mitigate adverse effects	Section 106 of the National Historic Preservation Act (16 U.S.C. 470f)	36 CFR 800 "Protection of Historic Properties"
References		
https://www.hudexchange.info/environmental-review/historic-preservation		

Threshold

Is Section 106 review required for your project?

☒Yes, because the project includes activities with potential to cause effects (direct or indirect). → *Continue to Step 1.*

The Section 106 Process

After determining the need to do a Section 106 review, initiate consultation with regulatory and other interested parties, identify and evaluate historic properties, assess effects of the project on properties listed on or eligible for the National Register of Historic Places, and resolve any adverse effects through project design modifications or mitigation.

Note that consultation continues through all phases of the review.

Step 1: Initiate consultation

Step 2: Identify and evaluate historic properties

Step 3: Assess effects of the project on historic properties

Step 4: Resolve any adverse effects

Step 1 - Initiate Consultation

The following parties are entitled to participate in Section 106 reviews: Advisory Council on Historic Preservation; State Historic Preservation Officers (SHPOs); federally recognized Indian tribes/Tribal Historic Preservation Officers (THPOs); Native Hawaiian Organizations (NHOs); local governments; and project grantees. The general public and individuals and organizations with a demonstrated interest in a project may participate as consulting parties at the discretion of the RE or HUD official. Participation varies with the nature and scope of a project. Refer to HUD's website for guidance on consultation, including the required timeframes for response. Consultation should begin early to enable full consideration of preservation options.

Use the When To Consult With Tribes checklist within Notice CPD-12-006: Process for Tribal Consultation to determine if you should invite tribes to consult on a particular project. Use the

Tribal Directory Assessment Tool (TDAT) to identify tribes that may have an interest in the area where the project is located. Note that consultants may not initiate consultation with Tribes.

Select all consulting parties below (check all that apply):

☒State Historic Preservation Officer (SHPO)
☐Advisory Council on Historic Preservation
☒Indian Tribes, including Tribal Historic Preservation Officers (THPOs) or Native
☐Hawaiian Organizations (NHOs)

List all tribes that were consulted here and their status of consultation:

Absentee-Shawnee Tribe of Indians of Oklahoma: Response Period Elapsed
Cheyenne and Arapaho Tribes, Oklahoma: Response Period Elapsed
Delaware Nation, Oklahoma: Response Period Elapsed
Delaware Tribe of Indians: Response Period Elapsed
Eastern Shawnee Tribe of Oklahoma: Completed
Little Traverse Bay Band of Odawa Indians, MI: Response Period Elapsed
Osage Nation: Completed
Prairie Band Potawatomi Nation: Response Period Elapsed
Seneca-Cayuga Nation: Response Period Elapsed
Wichita and Affiliated Tribes: Response Period Elapsed

☐Other Consulting Parties

List all consulting parties that were consulted here and their status of consultation:

Describe the process of selecting consulting parties and initiating consultation here:

A letter was sent to the Tribes outlining the project and included maps and additional information. The Eastern Shawnee Tribe of Oklahoma responded "the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe." The Osage Nation requested a Phase I Cultural Resources Survey be completed. The received responses are attached.

Provide all correspondence, notices, and notes (including comments and objections received) and continue to Step 2.

Step 2 - Identify and Evaluate Historic Properties

Define the Area of Potential Effect (APE), either by entering the address(es) or providing a map depicting the APE. Attach an additional page if necessary.

The address is 105 Michigan Street, Lawrence, KS 66044.

Gather information about known historic properties in the APE. Historic buildings, districts and archeological sites may have been identified in local, state, and national surveys and registers, local historic districts, municipal plans, town and county histories, and local history websites. If not already listed on the National Register of Historic Places, identified properties are then evaluated to see if they are eligible for the National Register.
Refer to HUD's website for guidance on identifying and evaluating historic properties.

In the space below, list historic properties identified and evaluated in the APE.
Every historic property that may be affected by the project should be listed. For each historic property or district, include the National Register status, whether the SHPO has concurred with the finding, and whether information on the site is sensitive. Attach an additional page if necessary.

Subject: 105 Michigan Street, Lawrence, Kansas. The property located at 105 Michigan Street is comprised of two platted lots (Lots 2 and 3) as part of the Northwood Addition No. 2 platted in 1959. There is an existing structure located on Lot 3. The structure was constructed in 1957 prior to the plat and is a ranch style structure. The structure is not individually eligible for listing in the National, State, or Lawrence registers. Structures in the block date from 1900 to 1985. There is not sufficient integrity in the block for a historic district. The demolition of the structure and redevelopment of the lot will have no adverse effect on any historic property or property listed in the National Register of Historic Places, the Register of Historic Kansas Places, or the Lawrence Register of Historic Places.

The SHPO has concurred that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register.

Provide the documentation (survey forms, Register nominations, concurrence(s) and/or objection(s), notes, and photos) that justify your National Register Status determination.

Was a survey of historic buildings and/or archeological sites done as part of the project?
If the APE contains previously unsurveyed buildings or structures over 50 years old, or there is a likely presence of previously unsurveyed archeological sites, a survey may be necessary. For Archeological surveys, refer to HP Fact Sheet #6, Guidance on Archeological Investigations in HUD Projects.

☒ Yes → *Provide survey(s) and report(s) and continue to Step 3.*
Additional notes:

The Osage Nation Tribal Historic Preservation Office requested a cultural resources survey of the area of potential effects. KB Archaeological Consulting, Lawrence, Kansas, was contracted by Tenants to Homeowners Inc and the City of Lawrence to carry out the survey. The proposed development is located at 105 N. Michigan Street located in a residential area within city limits of Lawrence, Kansas. A review of archival material and the Kansas Archaeological Site Inventory and the National Register of Historic Places databases found no archaeological sites or historic properties documented in the project area. Field survey was conducted on April 25, 2022 and included systematic shovel testing over the entire area of potential effects. No precontact or historic cultural materials were observed during the field investigation, either on the surface or in subsurface tests. A residential building standing on the lot is determined during this investigation to be ineligible for listing on the National Register of Historic Places. This survey concludes with the recommendation that the proposed undertaking will have no adverse effects to historic properties. A copy of the completed survey was delivered to the Osage Nation on May 16, 2022. No response was received. Attached is a copy of the completed survey.

Step 3 - Assess Effects of the Project on Historic Properties

Only properties that are listed on or eligible for the National Register of Historic Places receive further consideration under Section 106. Assess the effect(s) of the project by applying the Criteria of Adverse Effect. (36 CFR 800.5)] Consider direct and indirect effects as applicable as per HUD guidance.

Choose one of the findings below - No Historic Properties Affected, No Adverse Effect, or Adverse Effect; and seek concurrence from consulting parties.

☒ No Adverse Effect

Document reason for finding:

The SHPO has determined that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register.

Does the No Adverse Effect finding contain conditions?

☒ No → *Provide concurrence(s) or objection(s) and continue to the Worksheet Summary.*

If consulting parties concur or fail to respond to user's request for concurrence, project is in compliance with this section. No further review is required. If consulting parties object, refer to (36 CFR 800.5(c)(2)) and consult further to try to resolve objection(s).

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

Based on Section 106 consultation the project will have No Adverse Effect on historic properties. Conditions: None. Upon satisfactory implementation of the conditions, which should be monitored, the project is in compliance with Section 106. See attached Historic Preservation Worksheet packet.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

1 Riverfront Plaza, Suite 110
P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

Patrick Zollner
State Historic Preservation Office
6425 SW Sixth Avenue
Topeka, KS 66615-1099

February 14, 2022

Subject: 105 Michigan Street, Lawrence, Kansas. *The property located at 105 Michigan Street is comprised of two platted lots (Lots 2 and 3) as part of the Northwood Addition No. 2 platted in 1959. There is an existing structure located on Lot 3. The structure was constructed in 1957 prior to the plat and is a ranch style structure. The structure is not individually eligible for listing in the National, State, or Lawrence registers. Structures in the block date from 1900 to 1985. There is not sufficient integrity in the block for a historic district. The demolition of the structure and redevelopment of the lot will have no adverse effect on any historic property or property listed in the National Register of Historic Places, the Register of Historic Kansas Places, or the Lawrence Register of Historic Places.*

Dear Mr. Zollner,

Pursuant to 36 CRF 800 requirements of the National Historic Preservation Act, we are submitting the following project for your review. We are proposing to use Federal HUD HOME Grant money to fund this project.

The City's Community Housing Development Organization, Tenants to Homeowners, plans to perform the following work:

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Tenants to Homeowners will sell these homes to low-income families, making less than 80% of Area Median Income with no additional debt, according to their program guidelines.

We anticipate that your review might take approximately two weeks.
If you need more information please call me at (785) 832-3108 or email dwalters@lawrenceks.org .

We have also submitted this to project to the Lawrence/Douglas County Planning Department for review. The Historic Resources Administrator has reviewed the project and writes that she sees "no adverse effect on any historic property".

Sincerely,

Danelle Walters

Danelle Walters
Community Development Manager
Planning & Development Services

Attachments: project map

Cc: Lynne Zollner, Planning

ArcGIS Web Map

1/30/2022, 4:42:47 PM

Parcels

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.02 0.04 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

National Flood Hazard Layer FIRMette

FEMA

95°15'25"W 38°59'8"N

95°14'47"W 38°58'40"N

Feet

0 250 500 1,000 1,500 2,000

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/14/2022 at 5:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Cultural Resources Division
State Historic Preservation Office
6425 SW 6th Avenue
Topeka KS 66615-1099

Kansas Historical Society

785-272-8681, ext. 240
kshs.shpo@ks.gov
kshs.org

Jennie Chinn, Executive Director

Laura Kelly, Governor

KSR&C # 22-02-098
March 10, 2022

Brad Karr
Community Development Analyst
City of Lawrence
Via Email

Re: Residential Infill Development, 105 Michigan St, Lawrence – Douglas County

We have reviewed the materials received February 14, 2022 regarding the above-referenced project in accordance with 36 CFR Part 800. In reviews of this nature, the SHPO determines whether a federally funded, licensed, or permitted project will adversely affect properties that are listed or determined eligible for listing in the National Register of Historic Places. The SHPO has determined that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register. As far as this office is concerned, the project may proceed.

Thank you for giving us the opportunity to comment on this proposal. Please refer to the Kansas State Review & Compliance number (KSR&C#) listed above on any future correspondence. Please submit any comments or questions regarding this review to Lauren Jones at lauren.jones@ks.gov.

Sincerely,

Jennie Chinn
State Historic Preservation Officer

Patrick Zollner
Director, Cultural Resources Division
Deputy State Historic Preservation Officer

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

1 Riverfront Plaza, Suite 320
P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

January 30, 2022

Absentee Shawnee Tribe of Indians of Oklahoma
John Johnson, Governor
Devon Frazier, THPO
2020 South Gordon Cooper Drive
Shawnee, OK, 74801

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Absentee Shawnee Tribe of Indians of Oklahoma:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

The City of Lawrence will conduct a review of this project to comply with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. We would like to invite you to be a consulting party in this review to help identify historic properties in the project area that may have religious and cultural significance to your tribe, and if such properties exist, to help assess how the project might affect them. If the project might have an adverse effect, we would like to discuss possible ways to avoid, minimize or mitigate potential adverse effects.

To meet project timeframes, if you would like to be a consulting party on this project, can you please let us know of your interest within 30 days? If you have any initial concerns with impacts of the project on religious or cultural properties, can you please note them in your response? You can respond via email at dwalters@lawrenceks.org. If you could also let us know if you do not wish to consult we would appreciate it.

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Thank you very much. We value your assistance and look forward to consulting further if there are historic properties of religious and cultural significance to your tribe that may be affected by this project.

Sincerely,

Danelle Walters

Danelle Walters
Housing Initiatives Manager
Planning & Development Services
785-832-3108 fax 785-832-3110
Email: dwalters@lawrenceks.org

105 Michigan Street

1/30/2022, 4:42:47 PM

Parcels

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Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

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P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

January 30, 2022

Cheyenne and Arapaho Tribes, Oklahoma
Reggie Wassana, Governor
Max Bear, THPO
700 Black Kettle Blvd
Concho, OK, 73022

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Cheyenne and Arapaho Tribes, Oklahoma:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

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Fax 785-832-3110

January 30, 2022

Delaware Nation, Oklahoma
Deborah Dotson, President
Nekole Alligood, Director of Historic Preservation
PO Box 825
Anadarko, OK 73005

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Delaware Nation, Oklahoma:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

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January 30, 2022

Delaware Tribe of Indians
Chief Chester Brooks
5100 Tuxedo Blvd
Bartlesville, OK 74006

Dr. Bryce Obermeyer, THPO
1 Kellog Circle
Emporia, KS 66801

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Delaware Tribe of Indians:

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Tdd 785-832-3205
Fax 785-832-3110

January 30, 2022

Eastern Shawnee Tribe of Oklahoma
Chief Glenna Wallace
PO Box 350
Seneca, MO 64865

Paul Barton, THPO
12705 S 705 Road
Wyandotte, OK 74370-3148

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Eastern Shawnee Tribe of Oklahoma:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

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Tdd 785-832-3205
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January 30, 2022

Little Traverse Bay Bands of Odawa Indians, Michigan
Regina Glasco-Bentley, Chairperson
Melissa Wiatrolik, THPO
7500 Odawa Circle
Harbor Springs, MI 49740

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Little Traverse Bay Bands of Odawa Indians, Michigan:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

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Phone 785-832-7700
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January 30, 2022

Osage Nation
Principal Chief Geoffrey Standing Bear
Andrea A. Hunter, THPO
627 Grandview Avenue
Pawhuska, OK 74056

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Osage Nation:

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Fax 785-832-3110

January 30, 2022

Prairie Band Potawatomi Nation
Liana Onnen, Chairperson
Thomas Wabmum THPO
16281 Q Road
Mayetta, KS 66509

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Prairie Band Potawatomi Nation:

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Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

January 30, 2022

Seneca-Cayuga Nation
Chief William Fisher
William Tarrant, THPO
PO Box 453220
Grove, OK 74345-3220

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Seneca-Cayuga Nation:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

The City of Lawrence will conduct a review of this project to comply with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. We would like to invite you to be a consulting party in this review to help identify historic properties in the project area that may have religious and cultural significance to your tribe, and if such properties exist, to help assess how the project might affect them. If the project might have an adverse effect, we would like to discuss possible ways to avoid, minimize or mitigate potential adverse effects.

To meet project timeframes, if you would like to be a consulting party on this project, can you please let us know of your interest within 30 days? If you have any initial concerns with impacts of the project on religious or cultural properties, can you please note them in your response? You can respond via email at dwalters@lawrenceks.org. If you could also let us know if you do not wish to consult we would appreciate it.

Enclosed is a map that shows the project area and, if applicable, any additional areas of potential indirect effects. The Housing Initiatives Division, in partnership with Tenants to Homeowners, Inc., the City's Community Housing Development Organization, will be using federal HOME Program Set-aside funds to pay for a portion of the construction costs for the following project:

Tenants to Homeowners will purchase 105 Michigan, which is a 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Currently, 105 Michigan is divided into two lots and was originally platted in 1959. This project would make use of the City's Affordable Housing Density Bonus allowing two units on one lot. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot currently has a home that will be demolished and the other has not been residentially developed. The development will be residential infill and will also utilize the city's Housing Trust Fund.

Tenants to Homeowners will sell these homes to low-income families, making less than 80% of Area Median Income with no additional debt, according to their program guidelines.

More information on the Section 106 review process is available at http://www.onecpd.info/environmental-review/historic-preservation/.

HUD's process for tribal consultation under Section 106 is described in a Notice available at https://www.onecpd.info/resource/2448/notice-cpd-12-006-tribal-consultation-under-24-cfr-part-58.

Thank you very much. We value your assistance and look forward to consulting further if there are historic properties of religious and cultural significance to your tribe that may be affected by this project.

Sincerely,

Danelle Walters

Danelle Walters
Housing Initiatives Manager
Planning & Development Services
785-832-3108 fax 785-832-3110
Email: dwalters@lawrenceks.org

105 Michigan Street

1/30/2022, 4:42:47 PM

Parcels

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0 0.01 0.02 0.04 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

1 Riverfront Plaza, Suite 320
P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

January 30, 2022

Wichita and Affiliated Tribes (Wichita, Keechi, Waco, and Tawakonie) Oklahoma
Terri Parton, President
Robin Williams, THPO
PO Box 729
Anadarko, OK 73005

Re: New Home Construction (Six units)
105 Michigan Street
Lawrence, Kansas 66044
Potential for utilizing 2020-2022 HUD HOME Program funding

Dear Wichita and Affiliated Tribes:

The City of Lawrence is considering funding the project listed above with federal funds from the U.S. Department of Housing and Urban Development (HUD). Under HUD regulation 24 CFR 58.4, the City of Lawrence has assumed HUD's environmental review responsibilities for the project, including tribal consultation related to historic properties. Historic properties include archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, and buildings and structures with significant tribal association.

The City of Lawrence will conduct a review of this project to comply with Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800. We would like to invite you to be a consulting party in this review to help identify historic properties in the project area that may have religious and cultural significance to your tribe, and if such properties exist, to help assess how the project might affect them. If the project might have an adverse effect, we would like to discuss possible ways to avoid, minimize or mitigate potential adverse effects.

To meet project timeframes, if you would like to be a consulting party on this project, can you please let us know of your interest within 30 days? If you have any initial concerns with impacts of the project on religious or cultural properties, can you please note them in your response? You can respond via email at dwalters@lawrenceks.org. If you could also let us know if you do not wish to consult we would appreciate it.

Enclosed is a map that shows the project area and, if applicable, any additional areas of potential indirect effects. The Housing Initiatives Division, in partnership with Tenants to Homeowners, Inc., the City's Community Housing Development Organization, will be using federal HOME Program Set-aside funds to pay for a portion of the construction costs for the following project:

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Tenants to Homeowners will sell these homes to low-income families, making less than 80% of Area Median Income with no additional debt, according to their program guidelines.

More information on the Section 106 review process is available at http://www.onecpd.info/environmental-review/historic-preservation/.

HUD's process for tribal consultation under Section 106 is described in a Notice available at https://www.onecpd.info/resource/2448/notice-cpd-12-006-tribal-consultation-under-24-cfr-part-58.

Thank you very much. We value your assistance and look forward to consulting further if there are historic properties of religious and cultural significance to your tribe that may be affected by this project.

Sincerely,

Danelle Walters

Danelle Walters
Housing Initiatives Manager
Planning & Development Services
785-832-3108 fax 785-832-3110
Email: dwalters@lawrenceks.org

105 Michigan Street

1/30/2022, 4:42:47 PM

Parcels

1:1,128

0 0.01 0.01 0.03 mi

0 0.01 0.02 0.04 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS
City of Lawrence Kansas

EASTERN SHAWNEE
CULTURAL PRESERVATION DEPARTMENT
70500 East 128 Road, Wyandotte, OK 74370

February 22, 2022
City Of Lawrence
1 Riverfront Plaza Suite 110
Lawrence, KS 66044

RE: ***New Home Construction (Six Units), Lawrence Kansas, Douglas County, Kansas***

Dear Ms. Walters,

The Eastern Shawnee Tribe has received your letter regarding the above referenced project(s) within Douglas County, Kansas. The Eastern Shawnee Tribe is committed to protecting sites important to Tribal Heritage, Culture and Religion. Furthermore, the Tribe is particularly concerned with historical sites that may contain but not limited to the burial(s) of human remains and associated funerary objects.

As described in your correspondence, and upon research of our database(s) and files, we find our people occupied these areas historically and/or prehistorically. However, the project proposes **NO Adverse Effect** or endangerment to known sites of interest to the Eastern Shawnee Tribe. Please continue project as planned. However, should this project inadvertently discover an archeological site or object(s) we request that you immediately contact the Eastern Shawnee Tribe, as well as the appropriate state agencies (within 24 hours). We also ask that all ground disturbing activity stop until the Tribe and State agencies are consulted. Please note that any future changes to this project will require additional consultation.

In accordance with the NHPA of 1966 (16 U.S.C. § 470-470w-6), federally funded, licensed, or permitted undertakings that are subject to the Section 106 review process must determine effects to significant historic properties. As clarified in Section 101(d)(6)(A-B), historic properties may have religious and/or cultural significance to Indian Tribes. Section 106 of NHPA requires Federal agencies to consider the effects of their actions on all significant historic properties (36 CFR Part 800) as does the National Environmental Policy Act of 1969 (43 U.S.C. § 4321-4347 and 40 CFR § 1501.7(a). This letter evidences NHPA and NEPA historic properties compliance pertaining to consultation with this Tribe regarding the referenced proposed projects.

Thank you, for contacting the Eastern Shawnee Tribe, we appreciate your cooperation. Should you have any further questions or comments please contact our Office.
Sincerely,

Paul Barton, Tribal Historic Preservation Officer (THPO)
Eastern Shawnee Tribe of Oklahoma
(918) 666-5151 Ext:1833

Osage Nation Historic Preservation Office

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Date: February 22, 2022 **File: 2122-5223KS-2**

RE: HUD, City of Lawrence, New Home Construction (Six Units) 105 Michigan Street, Douglas County, Kansas

City of Lawrence
Danelle Walters
1 Riverfront Plaza, Suite 320, P.O. Box 708
Lawrence, KS 66044

Dear Ms. Walters,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project listed as HUD, City of Lawrence, New Home Construction (Six Units) 105 Michigan Street, Douglas County, Kansas. **The Osage Nation requests that a cultural resources survey be conducted for this project.**

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969).

The Osage Nation has a vital interest in protecting its historic and ancestral cultural resources. **The Osage Nation anticipates reviewing and commenting on the planned Phase I cultural resources survey report for the proposed HUD, City of Lawrence, New Home Construction (Six Units) 105 Michigan Street, Douglas County, Kansas.**

The Osage Nation Historic Preservation Office S106 Procedures and Survey Standards can be accessed at the web address listed in the footnote of this letter. Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Luke Morris
Archaeologist

https://www.osageculture.com/culture/historic-preservation-office

627 Grandview Ave. * Pawhuska, OK 74056 Telephone 918-287-5328 * Fax 918-287-5376
HistoricPreservation@osagenation-nsn.gov

City of Lawrence
PLANNING & DEVELOPMENT SERVICES

1 Riverfront Plaza, Suite 320
P.O. Box 708
Lawrence, KS 66044

www.lawrenceks.org/pds

Phone 785-832-7700
Tdd 785-832-3205
Fax 785-832-3110

May 10, 2022

Osage Nation
Principal Chief Geoffrey Standing Bear
Andrea A. Hunter, THPO
627 Grandview Avenue
Pawhuska, OK 74056

Consultation Cover Sheet

1. The City of Lawrence is considering funding 105 Michigan Street with federal **HOME Investment Partnership funds from the U.S. Department of Housing and Urban Development (HUD).**

2. The City's contact for the project is:
   Danelle Walters
   Housing Initiatives Manager
   Planning & Development Services
   785-832-3108 fax 785-832-3110
   Email: dwalters@lawrenceks.org

3. **New Home Construction (Six units)**
   Infill Development
   105 Michigan Street
   Lawrence, Kansas 66044

4. Latitude: 38.981180
   Longitude: -95.251680
   UTM Easting: 304960.86
   UTM Northing: 4317099.66
   UTM Zone: 15S

   USPLSS:
   The project area is located in the NE quarter of the SE quarter of the NW quarter of Section 25, Township 12 South, Range 19 East.

5. **Total area surveyed: A 0.8 acre APE was measured.**

Cultural Resources Survey with Shovel Testing, 105 N. Michigan Street, City of Lawrence, Douglas County, Kansas

Prepared for:
Tenants to Homeowners Inc,
and
The City of Lawrence

Prepared by
Kale Bruner, Ph.D., R.P.A.

May 2022

Abstract

This report describes the results of a cultural resources survey with shovel testing conducted for a HUD, Lawrence, Douglas County, Kansas housing development project. This undertaking is subject to the review process in accordance to Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800) and under the provision 302706 of U.S. Code 54. The Osage Nation Tribal Historic Preservation Office requested a cultural resources survey of the area of potential effects. KB Archaeological Consulting, Lawrence, Kansas, was contracted by Tenants to Homeowners Inc and the City of Lawrence to carry out the survey.

The proposed development is located at 105 N. Michigan Street located in a residential area within city limits of Lawrence, Kansas. A review of archival material and the Kansas Archaeological Site Inventory and the National Register of Historic Places databases found no archaeological sites or historic properties documented in the project area. Field survey was conducted on April 25, 2022 and included systematic shovel testing over the entire area of potential effects. No precontact or historic cultural materials were observed during the field investigation, either on the surface or in subsurface tests. A residential building standing on the lot is determined during this investigation to be ineligible for listing on the National Register of Historic Places. This survey concludes with the recommendation that the proposed undertaking will have no adverse effects to historic properties.

1. INTRODUCTION

This report describes the results of a cultural resources survey with shovel testing conducted on behalf of the City of Lawrence, Kansas in connection to the proposed housing development by Tenants to Homeowners Inc. for the project listed as HUD, Lawrence, Douglas County, Kansas (Figure 1). The physical address of the property is 105 N. Michigan Street, Lawrence, Kansas. The anticipated impact of the proposed development will be to a 0.8-acre lot within a developed residential area. The Area of Potential Effects (APE) is defined as a polygon measuring 61.7 meters (202.5 feet) by 52.8 meters (173.2 feet) abutting property boundaries on the north, south and west, and city easements on the east.

Provisions of the National Historic Preservation Act of 1966 (NHPA) require that federal agencies, or endeavors requiring federal permits, consider the impacts of their undertakings on historic properties and to sites of cultural significance to Native American tribes. In accordance to Section 106 of NHPA, in a letter dated February 22, 2022 the Osage Nation Historic Preservation Office (ONHPO) requested a cultural resources survey of the area of proposed development. KB Archaeological Consulting was contracted by City of Lawrence and Tenants to Homeowner's Inc. to carry out this survey. The cultural resources survey includes a background and literature review, search of state and national databases for previously recorded sites within a 1.6-kilometer (1-mile) radius of the project area, field investigation with shovel testing, and preparation of this report. Each component of the cultural resources survey was conducted by Dr. Kale Bruner, who meets the U.S. Secretary of the Interior's *Professional Qualification Standards for Archaeology* (36 CFR 61; 48 FR 44716).

The objectives of the cultural resources survey are 1) to determine through a combination of background research and field survey if cultural resources are present within the project area, and 2) if cultural resources are found to occur, to perform a preliminary assessment of their eligibility for listing on the National Register of Historic Places (NRHP). This investigation followed the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*

(48 FR 44716-44742) and the *Standards for Archaeological Survey* guidelines provided by the ONHPO.

Sections 2 and 3 of this report consist of summaries of the general environmental setting and cultural background of the study area. The results of the background review are presented in Section 4. Section 5 details the methodology of the field investigation and the results of that field survey are contained in Section 6. Section 7 concludes the report with a summary of the cultural resource survey findings and management recommendations.

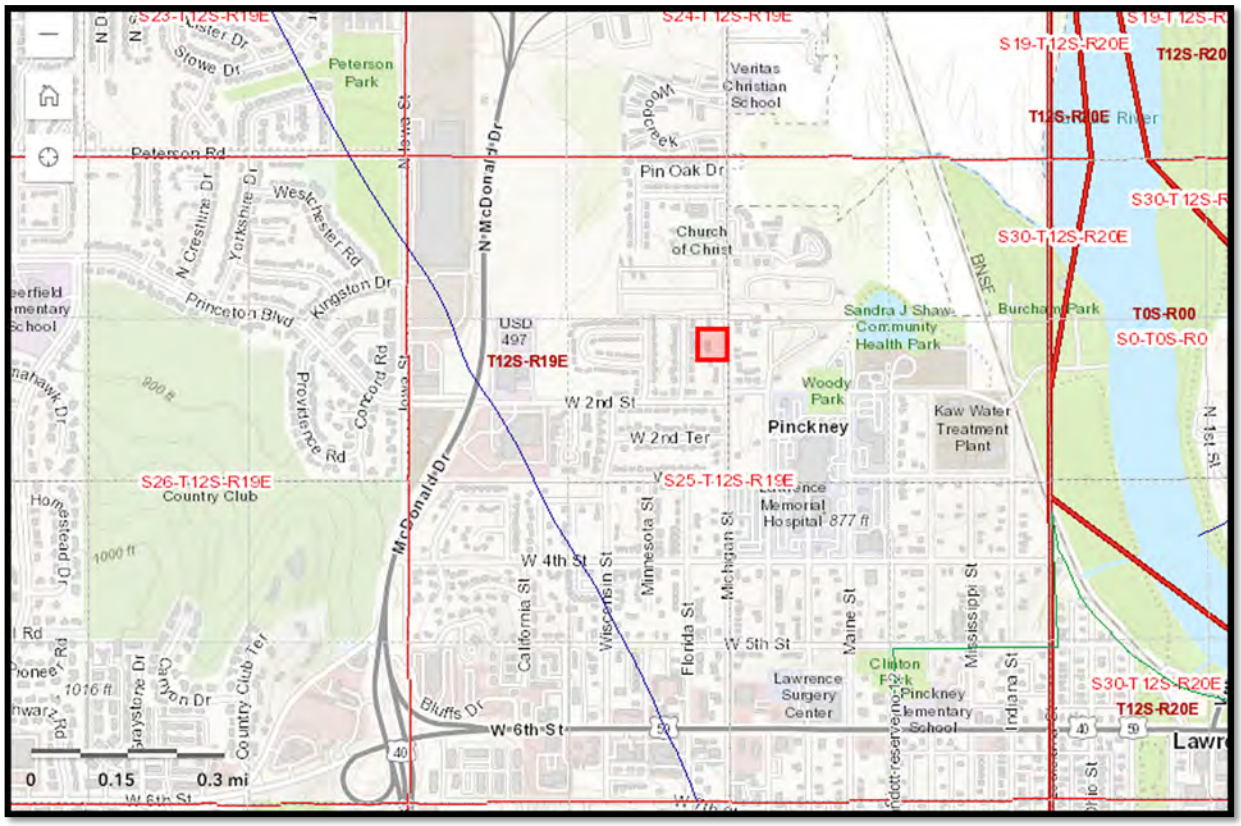

Figure 1. Project location in Lawrence, Kansas. The APE is marked by the red box.

2. ENVIRONMENTAL SETTING

The project area is located in the NE quarter of the SE quarter of the NW quarter of Section 25, Township 12 South, Range 19 East. Its physical address is 105 N. Michigan Street, Lawrence, Douglas County, Kansas with legal designation of Block 1, Lots 2 and 3 in the Northwood Addition No. 2. The anticipated impact of the proposed development will be to a 0.8-acre area positioned on an upland bench adjacent to terraces of the Kansas River. At the time of field survey the APE was in lawn grass; numerous trees, a circular gravel drive, and a standing residential structure and shed were also present (Figure 2). Historic satellite and aerial imagery spanning the past three decades show land use and conditions consistent with the time of survey.

Figure 2. Multiple views of the project area at 105 N. Michigan Street.

The project area is located in the Central Lowland physiographic province of the Interior Plains of North American (Trimble 1980) and within the Attenuated Drift Border division forming the interface of the Dissected Till Plains and the Osage Plains (Schoewe 1949). This boundary area, roughly marked by the Kansas River was episodically glaciated through the Pleistocene. Discontinuous glacial till deposits and ice-transported cobbles and boulders occur on both banks of the Kansas River in Douglas County, interspersed with alluvial and eolian sediments of more recent deposition. Bedrock in the region is composed of Pennsylvanian-aged limestone and shale, with those of the Oread Formation forming topographic highs in the area (Zeller 1968).

The topography in the vicinity of the project area is only slightly impacted by urban development. The project area sits on a broad, relatively flat upland bench approximately 10 meters above the Kansas River which is located 1000 meters to the east. The gentle upland slopes and the relatively level terraces of the Kansas River valley surrounding the project area were utilized for farmland for much of the past 150 years. The project area is located between two unnamed intermittent drainages that flow into the Kansas River; the closest of these to the project area is 400 meters south and to the north, the drainage flows in a northeasterly direction approximately 600 meters northwest of the project area.

Soils mapped in the project area consist of Woodson silt loam series. These interfluve soils are found on 1-3% slopes and formed in clayey glacial till or alluvium. Typical soil profiles are an A – Bt Horizon composed of dark grayish brown silty clay loam with clay content increasing with depth. Subsoil consists of gray to dark gray silty clay.

The regional climate is continental and characterized by moderate rainfall and a long growing season. The native floral community of the region is dominated by tall grass prairie composed of warm season grasses particularly big and little bluestem (Kuchler 1974). Bands of riparian communities consisting of broadleaf deciduous species of tree such as oak, hickory, and cottonwood follow some of the stream courses throughout the region and were especially dense in the Kansas River valley near the project area. These grass and woodland environments once supported native faunal communities consisting of large browsers and grazers including bison, elk, whitetail deer, and pronghorn as well as predators such as mountain lion, bobcat, black bear,

wolves and fox. Smaller mammals and birds include beaver, muskrat, raccoon, opossum, badger, rabbit, squirrel, turkey, prairie chicken, quail and grouse. Aquatic fauna includes a variety of fishes and bivalves.

3. CULTURAL HISTORY OVERVIEW

Archaeological evidence for human occupation of northeast Kansas extends to more than 13,000 years ago, or before present (BP). Precontact site types in the region include hunting camps, chert extraction and workshop localities, as well as long-term habitations such as villages. The general cultural-historical sequence for northeast Kansas is:

Paleoindian – c. 13,500 BP to 9,000 BP
Archaic – c. 9,000 BP to 2,000 BP
Early Ceramic – c. 2,000 BP to 950 BP
Middle Ceramic – c. 950 BP to 450 BP
Late Ceramic – c. 450 BP to 150 BP
Historic – 150 BP to present

The Paleoindian period represents the earliest evidence of human occupation in central portion of North America. Based on excavation of sites within the Great Plains and beyond, Paleoindian peoples were highly mobile with a subsistence economy focused on hunting of large game including mammoth and bison. The Clovis technocomplex is the earliest known in northeast Kansas, and is succeeded by the Folsom, Frederick and Dalton technocomplexes (Hofman and Graham 1998).

The transition from the Paleoindian to the Archaic Period occurred approximately 9,000 BP and is marked by continent-wide trend toward broad-spectrum subsistence strategies, increased sedentism, and regional differentiation. This cultural transition occurred during a climatic and environmental shift following the Pleistocene and the onset of the Holocene. On the Great Plains, these changes culminated in the pronounced episode of warmer and dryer conditions known as the Altithermal (Mandel 2006). In northeast Kansas the Archaic period is subdivided into the Logan Creek and Nebo Hill phases (Blackmar and Hofman 2006; Kay 1998).

More permanent habitation sites and the innovation of agricultural practices are hallmarks of the Ceramic Period. The Early Ceramic period is significant for the proliferation of ceramic

technology, widespread use of the bow and arrow, and the cultivation of several indigenous plant species such as *Chenopodium* (Adair 2006) seen in Kansas City Hopewell and Grasshopper Falls phases. By the Late Ceramic period regional subsistence practices relied heavily on cultivation of imported cultigens including corn, beans, and squash as well as hunting and gathering. Agriculture and seasonal bison hunting supported large semi-permanent villages during this time. In northeast Kansas, sites attributed to the White Rock phase and protohistoric Oneota are known (Ritterbush 2006). During this time also, eastern tribes, including the Kansa began more permanent inhabitation in the region in response to the colonial population expansion east of the Mississippi River.

In the centuries leading up to the Historic Period the region was home to the Kansa, and also fell within the territorial or hunting ranges of the Osage, Pawnee, and other tribes. Incursions into the region by Europeans began as early as the 16th century as the French began to explore outward from their settlements in North America. The Missouri River, and later the Kansas River as well, served as important routes of travel and trade in the region. Members of the Lewis and Clark party briefly traveled on the Kansas River during the Corps. Of Discovery expedition of 1804. In the first decades of the 19th century, trading posts and later forts were established along the Missouri River, including Fort Osage in 1808 just east of the confluence of the Missouri with the Kansas river near present-day Kansas City. By this time, and as early as the late 18th century, groups of Kansa lived in large villages along the Kansas River having moved westward from their previous homes on the Missouri River in northeast Kansas (Marshall 2006). The region was also heavily utilized by the Osage (Matthews 1961) who maintained important trading relationships with French-American outposts on the Missouri River and in Indian Territory (Hoig 2008).

The transfer of governmental jurisdiction of northeast Kansas from France to the United States occurred with Louisiana Purchase of 1803. Following this, much of what is today the state of Kansas, along with Oklahoma and portions of Arkansas were known as Indian Territory where many eastern tribes were forcibly relocated after passage of the Indian Removal Acts of 1830. The project area was included in the Kansas Territory of the United States after the 1854 passage of the Kansas-Nebraska Act which preceded statehood in January of 1861.

The project area is located within a tract of land held first by the Shawnee and then by the Wyandotte Nation from the 1830s to 1850s (Royce 1899). The town of Lawrence was founded in 1854 amidst the lands reserved for eastern tribes. The influx of Euroamerican emigrants to the area put pressure on the government to provide land on which to settle. A treaty with the United States in 1855 forced the Wyandotte to relinquish their reserves in the Kansas Territory and relocate to Oklahoma. The town of Lawrence grew rapidly as a commercial and shipping hub on the Kansas River. On the outskirts of town, the fertile soils of the river valleys and surrounding area provided prime agricultural fields claimed and worked by Euroamerican settlers. By the end of the 19th century, the project area was subsumed within the growing City of Lawrence.

4. BACKGROUND REVIEW & PREVIOUSLY RECORDED CULTURAL RESOURCES

The Kansas State Historical Society's online inventory of archaeological sites was searched to determine if previously recorded historic or precontact sites are located within a 1-mile (1.6 kilometer) radius of the project area and to identify the locations of previous archaeological surveys in the project vicinity. The National Park Service and Kansas Historic Resource Inventory online databases were searched to determine if any sites listed on the National Register of Historic Places (NRHP) or the Kansas Register of Historic Places (KRHP) were present in the vicinity of the project area. The plat map generated by the General Land Office (GLO) based on an 1856 survey, township maps from historic atlases, historic U.S.G.S topographic maps, and historic and current aerial imagery were consulted to determine the historic land use within the project area and surrounding area.

The database searchers identified no previously recorded archaeological sites or surveys present within or adjacent to the project area. Two prior archaeological surveys have been conducted in the vicinity of the project area. One of these identified historic period residential discard in a disturbed context approximately 500 meters east of the project area (Skov 2019). The second survey resulted in discovery of 14DO424, a scatter of residential debris and a concrete foundation attributed to the early or middle 20th century. 14DO424 is considered to be ineligible for listing on the State or National Register of Historic Places (Skov 2021).

Other archaeological or historic sites recorded within the search parameters of the project area include the Walruff Brewery complex (14DO222) located approximately 300 meters to the east. The site consists of a complex of standing masonry stable, underground tunnels and storage associated with a brewery in operation at this location between 1867 and 1887. The brewery stable later served as a tannery and shoe factory (Zavelo 1978).

The Kansas Historic Resource Inventory lists multiple historic properties within the search parameters of the project area and these are all buildings or districts associated with Territorial

period and city building. Of these historic properties, eight are listed on the National or State Registers of Historic Places in the vicinity of the project area (Table 1).

Property	Distance from Project Area	NRHP	KRHP
Judge Nelson T. Stephens House	950 meters	Listed	Listed
McCurdy House	1.0 kilometers	Listed	Listed
Aching House	1.5 kilometers	Listed	Listed
Mugan-Olmstead House	1.5 kilometers	Listed	Listed
Zimmerman House	850 meters	Listed	Listed
Pinkney I Historic District	1.2 kilometers	Listed	Listed
Pinkney II Historic District	750 meters	Listed	Listed
Johnson Block Historic District	1.5 kilometers	Listed	Listed

Table 1. Historic properties and districts listed on the National Register of Historic Places and/or the Kansas Register of Historic Places within a 1-mile radius of 105 N. Michigan, Lawrence, Kansas.

Developments within the project area are traced through the archival material reviewed in the course of this survey. The earliest of these sources, the GLO plat map of 1857, shows the northwest quarter of Section 25 within the Wyandotte Reserve (Figure 3), while the Stuck Atlas also of 1857, shows the northwest quarter of Section 25 owned by L. Gates. Neither of these sources show structural developments in Section 25 or neighboring sections at this time. An unlabeled road is depicted crossing Section 25 in a northwest-southeasterly direction and passing within one-half kilometer of the project area. Several additional roads are shown converging south of the project area in the vicinity of Lawrence. A segment of the California Road utilized for overland immigration through the 1830s and 1840s passes south of the project area.

An 1873 Atlas of Douglas County depicts the rapid expansion of the City of Lawrence that occurred in the 15 years prior (Beers 1873). The project area lies just outside the city boundary adjacent to the First Ward of West Lawrence. The northwest quarter of Section 25 is subdivided

and three structures are shown within two 10-acre lots immediately west of the project area (Figure 4). Atlases of 1902 and 1921 (Ogle and Co. 1902, 1921) show that the project area remained just outside of the city limits during these years, with no developments indicated.

As city building continued into the 20th century streets and residences were constructed in the vicinity of the project area. The project area was annexed to the City of Lawrence prior to 1960 with the Northwood Addition No. 2. Historic topographic maps from the United States Geological Survey (USGS) depict no structures on the property before 1967. The standing ranch style residence on the property at present day is likely that represented on the USGS's Lawrence West, Kansas Quadrangle, photo revised in 1967 (Figure 5).

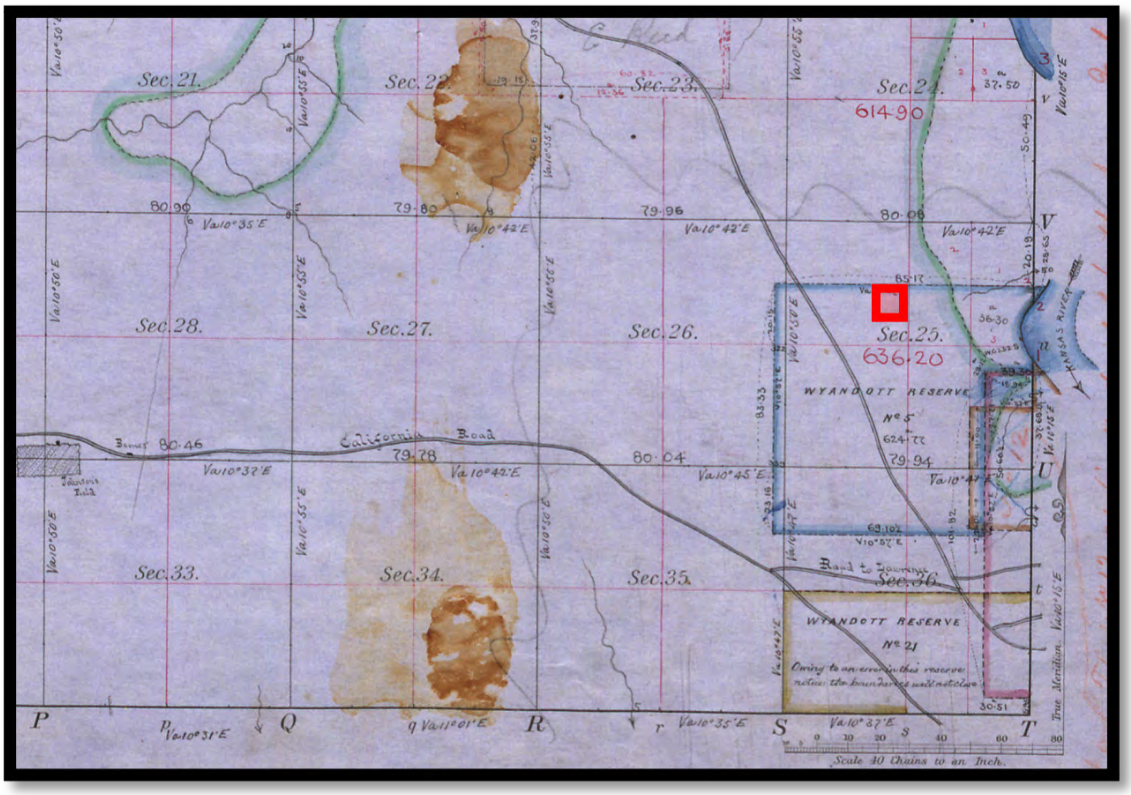

Figure 3. The 1857 General Land Office survey plat map of Township 12 South, Range 19 East. The APE is marked by a red box in Section 25, not to scale.

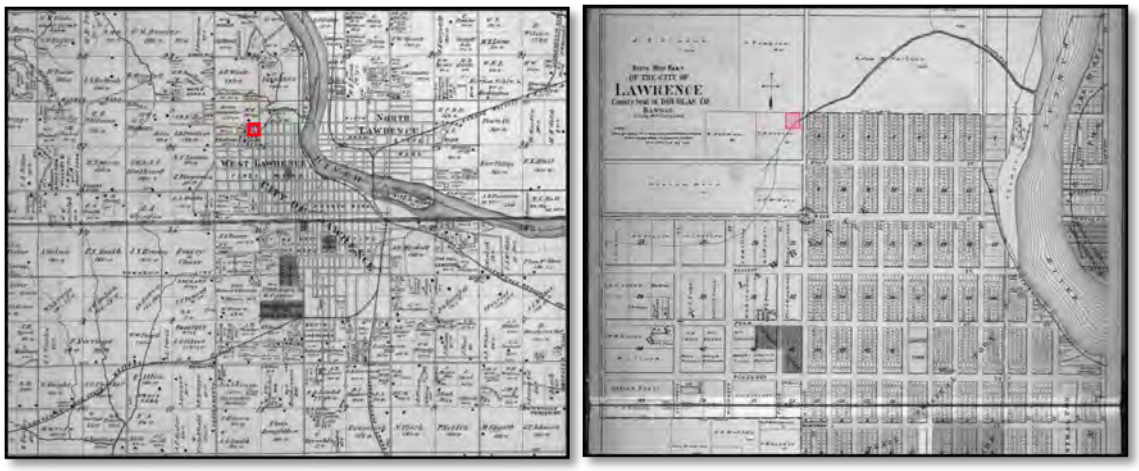

Figure 4. Historic atlases from 1873 (left) and 1902 (right). The APE is marked by a red box in Section 25, not to scale.

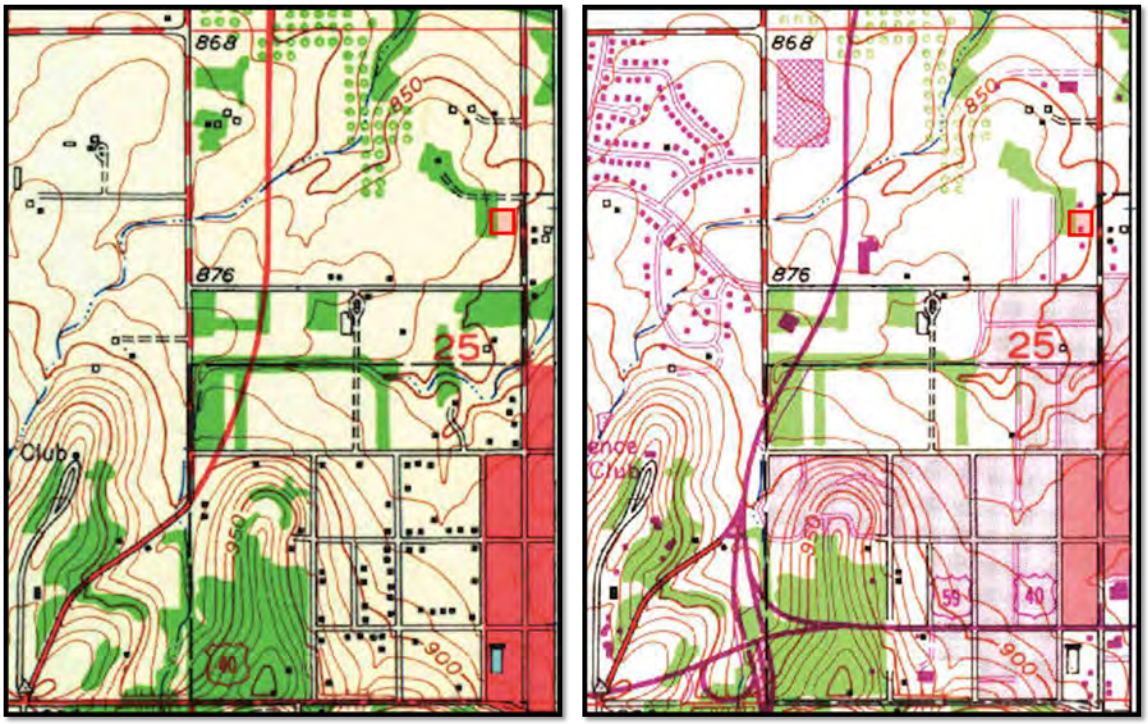

Figure 5. USGS 7.5 minute series Lawrence West, Kansas Quadrangle, 1950 edition (left) and 1967 photo revised edition (right). The APE is marked by a red box in Section 25, not to scale.

5. FIELD SURVEY METHODS

Field survey involved pedestrian survey and visual examination of the ground surface across the entire APE in 10 meter transects and systematic shovel testing on a 15-meter interval covering the APE. Shovel tests were excavated in four transects spaced 15 meters apart and oriented north-south across the APE. On each of the four transects the shovel tests were spaced 15 m apart and staggered between transects to achieve best coverage of the APE. Shovel tests measured a minimum of 30 cm in diameter and extended 20 cm into subsoil. Tests were dug in 10 cm levels and all excavated sediment was dry screened through ¼" hardware mesh. Location, soil texture, soil color, inclusions, and total depth of excavation were recorded for each shovel test and representative photographs were taken.

6. RESULTS OF FIELD SURVEY

Field investigations were comprised of pedestrian survey to visually examine the ground surface and shovel testing for subsurface investigation. The project area was in lawn grass with patches of tree and three raised berms having served as garden beds. The APE is a polygon measuring 61.7 x 52.8 meters. During pedestrian survey the APE was walked in 10-meter transects. Ground surface visibility was generally less than 80% due to dense grass cover. No evidence for precontact cultural resources was observed during pedestrian survey. A standing structure within the APE consists of a residential ranch-style home with attached garage on a concrete slab (Figure 6). The building's construction, style and materials are consistent with local and regional construction during the mid 1960s.

Subsurface investigation involved excavation of shovel tests on a grid with 15 m or less between each shovel test to ensure adequate coverage of the APE (Figure 7). A total of fifteen shovel tests were excavated and documented (Table 2). Soil stratigraphy across the project area was consistent and comprised of an A – Bt soil horizonation to approximate depths of 30 cm below surface; subsoil consisted of the upper levels of the C-horizon, or parent material derived from glacial till in which the soil had developed (Figure 8). Across the APE disturbances were observed in multiple of the upper 5-20 cm of most shovel test profiles, including mixed sediments and lenses of gravel. Much of the native A-Horizon appears to have been removed or disturbed by leveling of the lot or other construction activities leaving the Bt-Horizon near the surface, and, therefore, the subsoil was relatively shallow. Near the eastern boundary a layer of topsoil appears to have been added as fill. No other evidence for significant disturbance was observed in the soil profile. All shovel tests were negative for cultural material upon examination of screened sediments and shovel test walls.

Shovel Test #	Coordinates (WGS84)	Strat I	Strat II	Strat III	Size (cm)	Total Depth (cmbs)
ST-1	38.982098 -95.251836	0-12 cmbs (disturbed) 10YR4/2 silty clay loam	12-29 cmbs 10YR4/1 silty clay	29-51 cmbs 10YR4/2 silty clay	30	51
ST-2	38.981969 -95.251843	0-25 cmbs 10YR3/2 silty clay loam	25-38 cmbs 10YR4/1 silty clay	38- 59 cmbs 10YR4/2 silty clay	30	59
ST-3	38.981817 -95.25183	0-15 cmbs (disturbed) 10YR4/3 silty clay loam	15-36 cmbs 10YR4/2 silty clay	36-55 cmbs 10YR4/1 silty clay	34	55
ST-4	38.981689 -95.251828	0-20 cmbs (disturbed) 10YR4/4 silt loam	20-39 cmbs 10YR4/2 silty clay	39-45 cmbs 10YR4/1 silty clay	31	45
ST-5	38.982038 -95.251687	0-10 cmbs (disturbed) 10YR4/3 silt loam	10-26 cmbs 10YR3/2 silty clay	26-48 cmbs 10YR3/1 silty clay	33	48
ST-6	38.981915 -95.251679	0-18 cmbs (disturbed) 10YR4/2 silty clay loam	18-22 cmbs (disturbed) 10YR4/2 gravel in silty clay loam matrix	22-45 cmbs 10YR4/1 silty clay	32	45
ST-7	38.981617 -95.251681	0-4 cmbs (disturbed) 10YR4/3 silt loam	4-35 cmbs 10YR3/2 silty clay	35-52 cmbs 10YR3/1 silty clay	33	52
ST-8	38.982109 -95.251528	0-10 cmbs (disturbed) 10YR4/3 silty clay loam	10-32 cmbs 10YR4/2 silty clay	32-55 cmbs 10YR4/1 silty clay	30	55
ST-9	38.981971 -95.251523	0-17 cmbs 10YR3/1 silty clay loam	17-42 cmbs 10YR4/2 silty clay	42-62 cmbs 10YR4/1 silty clay	32	62
ST-10	38.981809 -95.251508	0-12 cmbs 10YR3/1 silty clay loam	12-30 cmbs 10YR4/3 silty clay	30-50 cmbs 10YR4/1 silty clay	31	50
ST-11	38.981664 -95.251497	0-16 cmbs 10YR4/1 silty clay loam	16-38 cmbs 10YR4/2 silty clay	38-50 cmbs 10YR3/1 silty clay	30	50
ST-12	38.982038 -95.251368	0-21 cmbs (disturbed) 10YR3/2 silt loam	21-34 cmbs 10YR4/2 silty clay	34-55 cmbs 10YR4/1 silty clay	32	55
ST-13	38.981908 -95.251353	0-18 cmbs (disturbed) 10YR4/4 silt loam	18-30 cmbs 10YR4/2 silty clay	30-50 cmbs 10YR4/1 silty clay	33	50
ST-14	38.981767 -95.251337	0-20 cmbs (disturbed) 10YR3/2 silt loam	20-32 cmbs 10YR4/2 silty clay	32-53 cmbs 10YR4/1 silty clay	30	53
ST-15	38.981624 -95.251326	0-20 cmbs (disturbed) 10YR3/2 silt loam	20-29 cmbs 10YR4/2 silty clay	29-49 cmbs 10YR4/1 silty clay	31	49

Table 2. Log of shovel tests excavated during field survey.

Figure 6. Standing structure at 105 N. Michigan Street, Lawrence, Kansas looking southwest.

Figure 7. Shovel test locations within the APE at 105 N. Michigan Street, Lawrence, Kansas.

Figure 8. Representative example of a shovel test excavation (ST-11).

7. CONCLUSION & RECOMMENDATIONS

A 0.8-acre area APE was surveyed with shovel testing for a proposed housing development at 105 N. Michigan Street, Lawrence, Douglas County, Kansas. No evidence for precontact or historic period occupation was present with the APE. The standing structure on the property is a single-family residence constructed in the 1960s. This building falls within the timeframe for consideration for inclusion on the NRHP. However, the building exhibits no features or historical associations that would deem it significant according to the established criteria (NPS 1995). Similar buildings occur in the City of Lawrence that convey the feeling of mid-century construction styles, and as such, this investigation finds that the building at 105 N. Michigan Street is not eligible for inclusion on the NRHP.

Based on the absence of historic period features within the project area in the archival documentation, and on the results of the field survey and subsurface testing which revealed no cultural materials, KB Archaeological Consulting recommends that the proposed undertaking will have no adverse effects on historic properties and that the proposed project proceed with no further cultural resource work. Should accidental discovery of buried cultural resources occur during construction, the Kansas SHPO and ONHPO should be notified immediately to determine the best course of action.

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Cultural Resources Division
State Historic Preservation Office
6425 SW 6th Avenue
Topeka KS 66615-1099

Kansas Historical Society

785-272-8681, ext. 240
kshs.shpo@ks.gov
kshs.org

Jennie Chinn, Executive Director

Laura Kelly, Governor

KSR&C # 22-02-098
March 10, 2022

Brad Karr
Community Development Analyst
City of Lawrence
Via Email

Re: Residential Infill Development, 105 Michigan St, Lawrence – Douglas County

We have reviewed the materials received February 14, 2022 regarding the above-referenced project in accordance with 36 CFR Part 800. In reviews of this nature, the SHPO determines whether a federally funded, licensed, or permitted project will adversely affect properties that are listed or determined eligible for listing in the National Register of Historic Places. The SHPO has determined that the proposed project will not adversely affect any property listed or determined eligible for listing in the National Register. As far as this office is concerned, the project may proceed.

Thank you for giving us the opportunity to comment on this proposal. Please refer to the Kansas State Review & Compliance number (KSR&C#) listed above on any future correspondence. Please submit any comments or questions regarding this review to Lauren Jones at lauren.jones@ks.gov.

Sincerely,

Jennie Chinn
State Historic Preservation Officer

Patrick Zollner
Director, Cultural Resources Division
Deputy State Historic Preservation Officer

USPS Tracking®

FAQs >

Track Another Package +

Tracking Number: 9405511899562806746946

Remove ×

Your item was delivered in or at the mailbox at 9:47 am on May 16, 2022 in PAWHUSKA, OK 74056.

USPS Tracking Plus® Available ⌄

Delivered, In/At Mailbox

May 16, 2022 at 9:47 am
PAWHUSKA, OK 74056

Feedback

Text & Email Updates ⌄

Tracking History ⌄

USPS Tracking Plus® ⌄

Product Information ⌄

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Can’t find what you’re looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs

Noise Abatement and Control

General requirements	Legislation	Regulation
HUD's noise regulations protect residential properties from excessive noise exposure. HUD encourages mitigation as appropriate.	Noise Control Act of 1972 General Services Administration Federal Management Circular 75-2: "Compatible Land Uses at Federal Airfields"	Title 24 CFR 51 Subpart B

1. What activities does your project involve? Check all that apply:

✓ New construction for residential use

NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.

Rehabilitation of an existing residential property

A research demonstration project which does not result in new construction or reconstruction

An interstate land sales registration

Any timely emergency assistance under disaster assistance provision or appropriations which are provided to save lives, protect property, protect public health and safety, remove debris and wreckage, or assistance that has the effect of restoring facilities substantially as they existed prior to the disaster
None of the above

4**. Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport).**

Indicate the findings of the Preliminary Screening below:

There are no noise generators found within the threshold distances above.

✓ Noise generators were found within the threshold distances.

5. **Complete the Preliminary Screening to identify potential noise generators in the**

✓ Acceptable: (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Indicate noise level here: 53

Based on the response, the review is in compliance with this section. Document and upload noise analysis, including noise level and data used to complete the analysis below.

Normally Unacceptable: (Above 65 decibels but not exceeding 75 decibels; the floor may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

Unacceptable: (Above 75 decibels)

HUD strongly encourages conversion of noise-exposed sites to land uses compatible with high noise levels.

Check here to affirm that you have considered converting this property to a non-residential use compatible with high noise levels.

Indicate noise level here: 53

Document and upload noise analysis, including noise level and data used to complete the analysis below.

Screen Summary

Compliance Determination

A Preliminary Screening was performed, and found the following: The Lawrence Regional Airport (LWC) is located within 15 miles of the project site. The attached Lawrence Regional Airport Master Plan Noise Exposure Contour maps indicate that the 65 DNL noise contour does not extend off airport property and does not affect any noise-sensitive land uses. Using the attached FAA Airport Master Record for LWC and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the

airport. The Vinland Valley Aerodrome (K64) is located within 15 miles of the project site. Using the attached FAA Airport Master Record for K64 and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the airport. The project site is not within 1,000 ft of a major road. The project is within 3,000 ft of a railroad; 2,076 ft from BNSF/Amtrak. The nearest U.S. DOT Crossing Inventory Form was used in calculating the combined DNL for all sources. A Noise Assessment was conducted. The noise level was acceptable: 53.0 db. See noise analysis. The project is in compliance with HUD's Noise regulation.

Supporting documentation

Noise Abatement and Control EA 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Noise (EA Level Reviews)

General requirements	Legislation	Regulation
HUD's noise regulations protect residential properties from excessive noise exposure. HUD encourages mitigation as appropriate.	Noise Control Act of 1972 General Services Administration Federal Management Circular 75-2: "Compatible Land Uses at Federal Airfields"	Title 24 CFR 51 Subpart B
References		
https://www.hudexchange.info/programs/environmental-review/noise-abatement-and-control		

1. **What activities does your project involve? Check all that apply:**

   ☒ New construction for residential use

   NOTE: HUD assistance to new construction projects is generally prohibited if they are located in an Unacceptable zone, and HUD discourages assistance for new construction projects in Normally Unacceptable zones. See 24 CFR 51.101(a)(3) for further details.

   → *Continue to Question 2.*

2. **Complete the Preliminary Screening to identify potential noise generators in the vicinity (1000' from a major road, 3000' from a railroad, or 15 miles from an airport). Indicate the findings of the Preliminary Screening below:**

   ☒ Noise generators were found within the threshold distances.

   → *Continue to Question 3.*

3. **Complete the Noise Assessment Guidelines to quantify the noise exposure. Indicate the findings of the Noise Assessment below:**

   ☒ Acceptable: (65 decibels or less; the ceiling may be shifted to 70 decibels in circumstances described in §24 CFR 51.105(a))

   Indicate noise level here: 53

   → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide noise analysis, including noise level and data used to complete the analysis.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

A Preliminary Screening was performed, and found the following:

The Lawrence Regional Airport (LWC) is located within 15 miles of the project site. The attached Lawrence Regional Airport Master Plan Noise Exposure Contour maps indicate that the 65 DNL noise contour does not extend off airport property and does not affect any noise-sensitive land uses. Using the attached FAA Airport Master Record for LWC and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the airport. The Vinland Valley Aerodrome (K64) is located within 15 miles of the project site. Using the attached FAA Airport Master Record for K64 and the attached HUD provided Small Airport Noise Worksheet, it was assumed the noise attributed to the airplanes would not extend beyond the boundaries of the airport.

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The project is within 3,000 of a railroad; 2,076’ from BNSF/Amtrak. The nearest U.S. DOT Crossing Inventory Form was used in calculating the combined DNL for all sources.

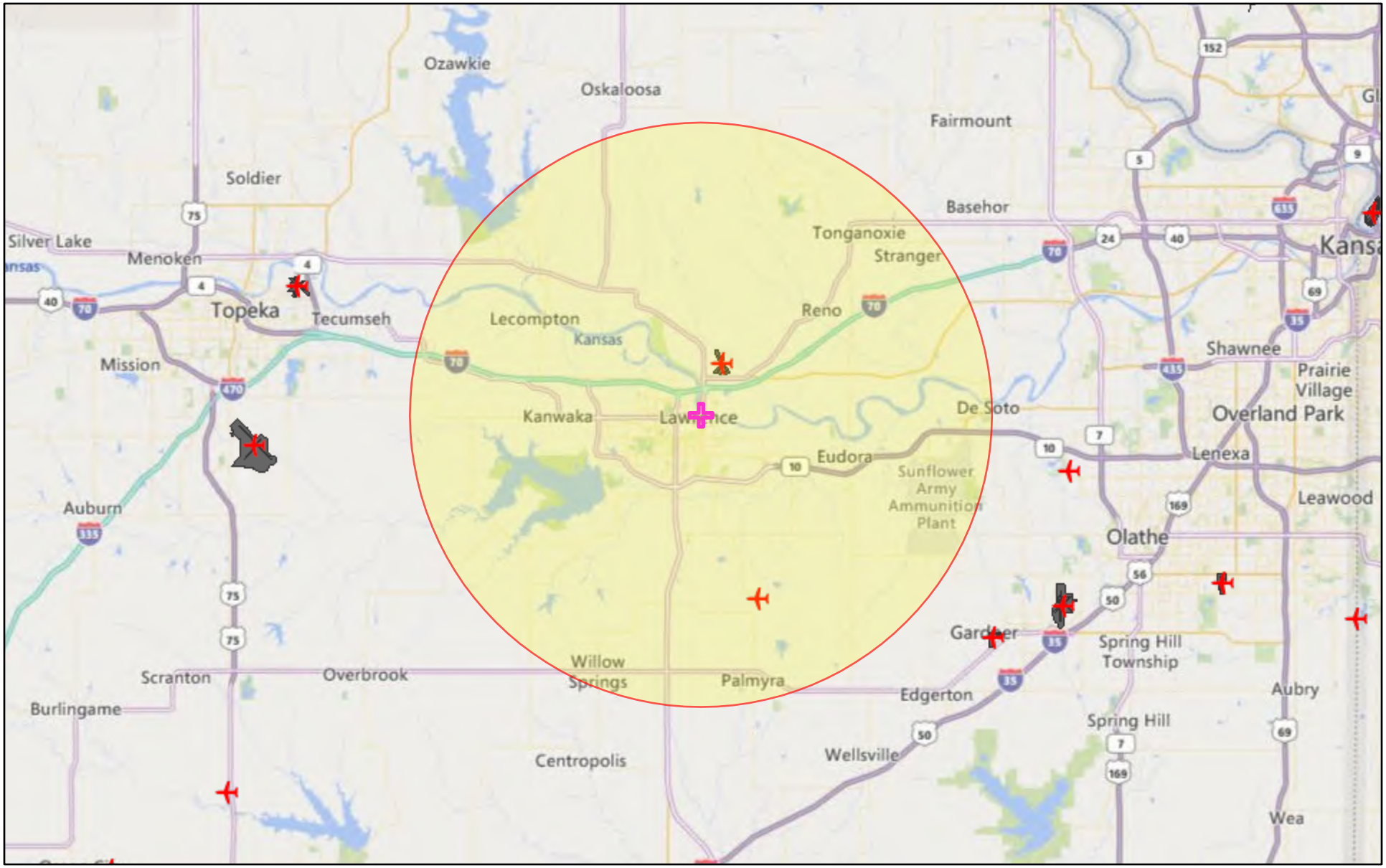
A Noise Assessment was conducted. The noise level was acceptable: 53.0 db. See noise analysis. The project is in compliance with HUD's Noise regulation.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Airports within 15 miles of Lawrence



December 2, 2021

Project Buffer

Airport Points

Lawrence

Airport Polygons

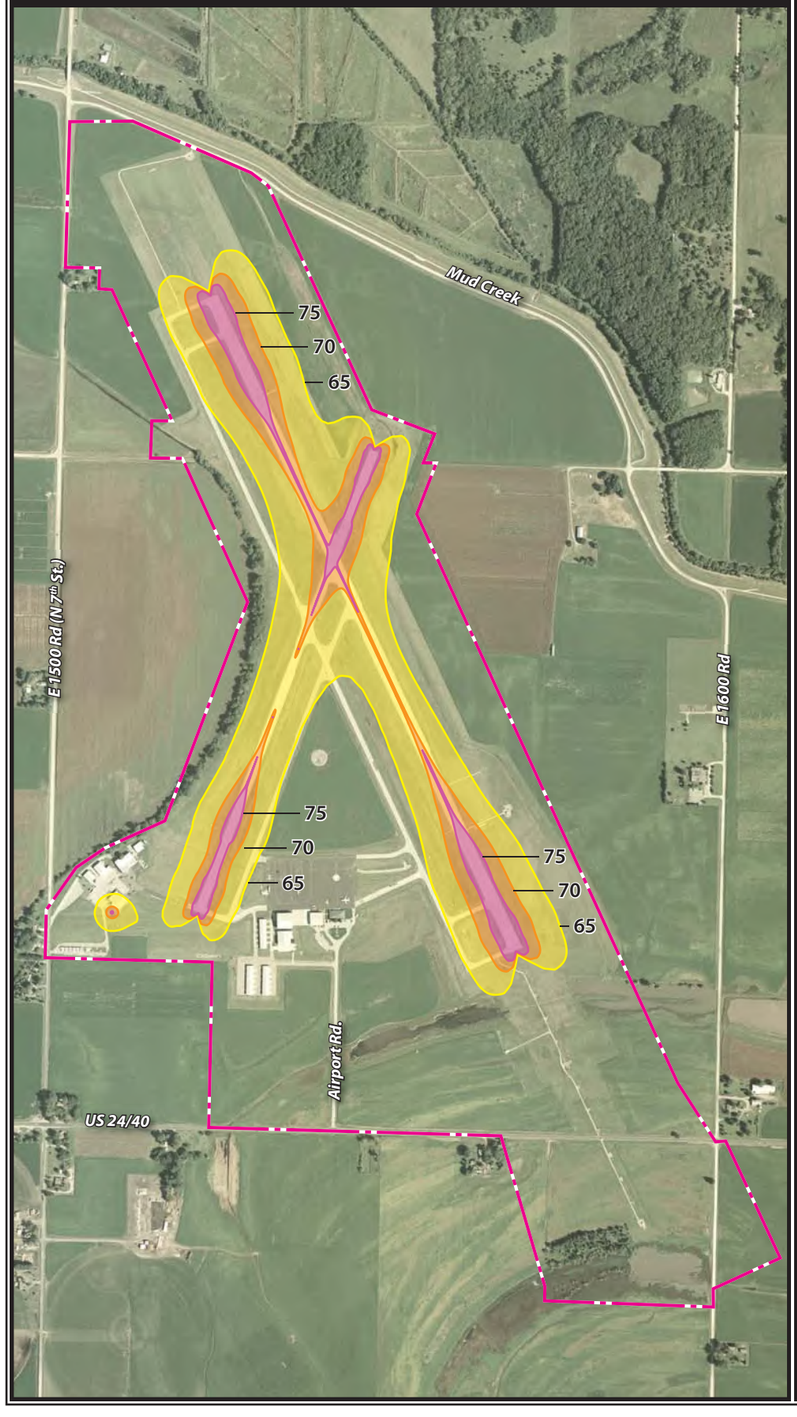
1:577,791

0 3.75 7.5 15 mi

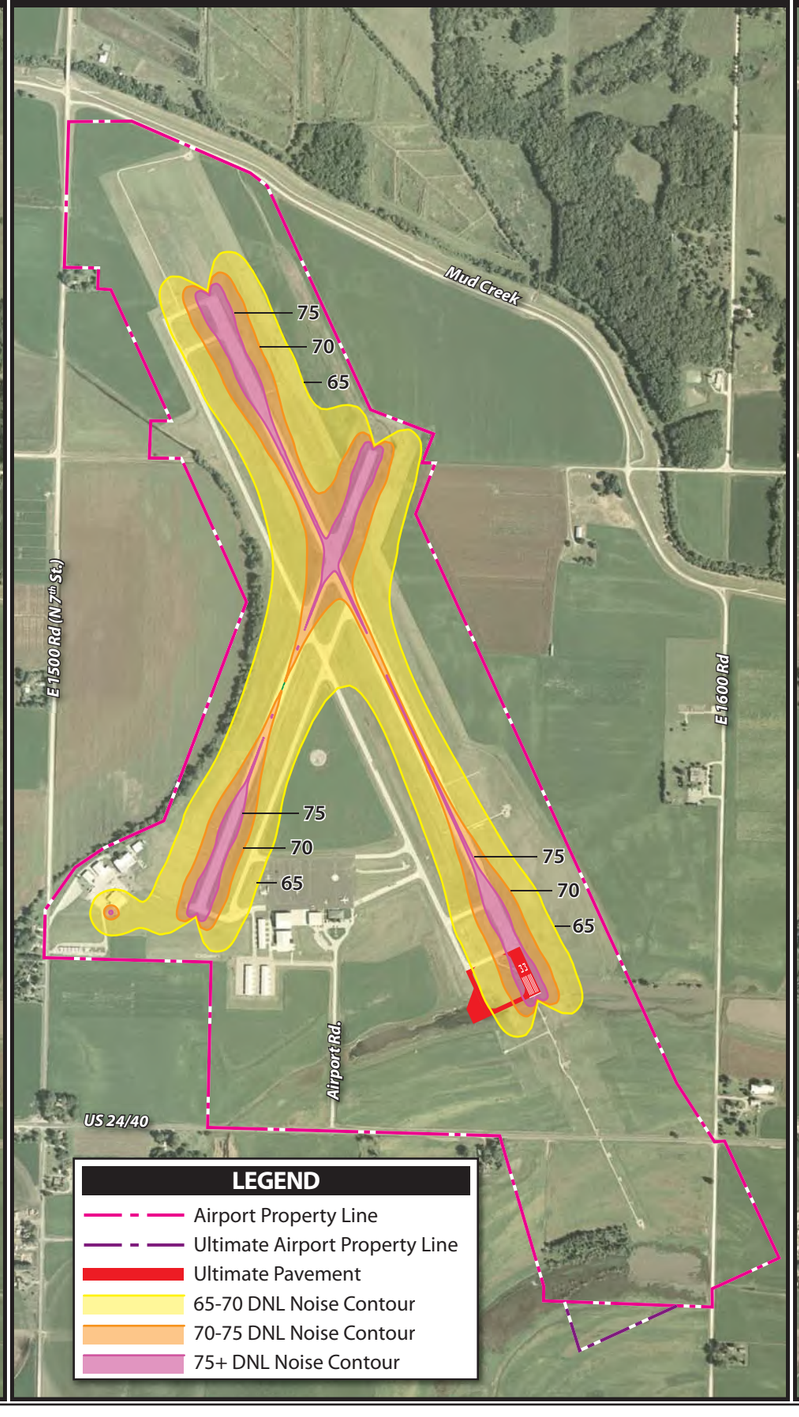
0 5 10 20 km

10MP07-D2-6/7/11

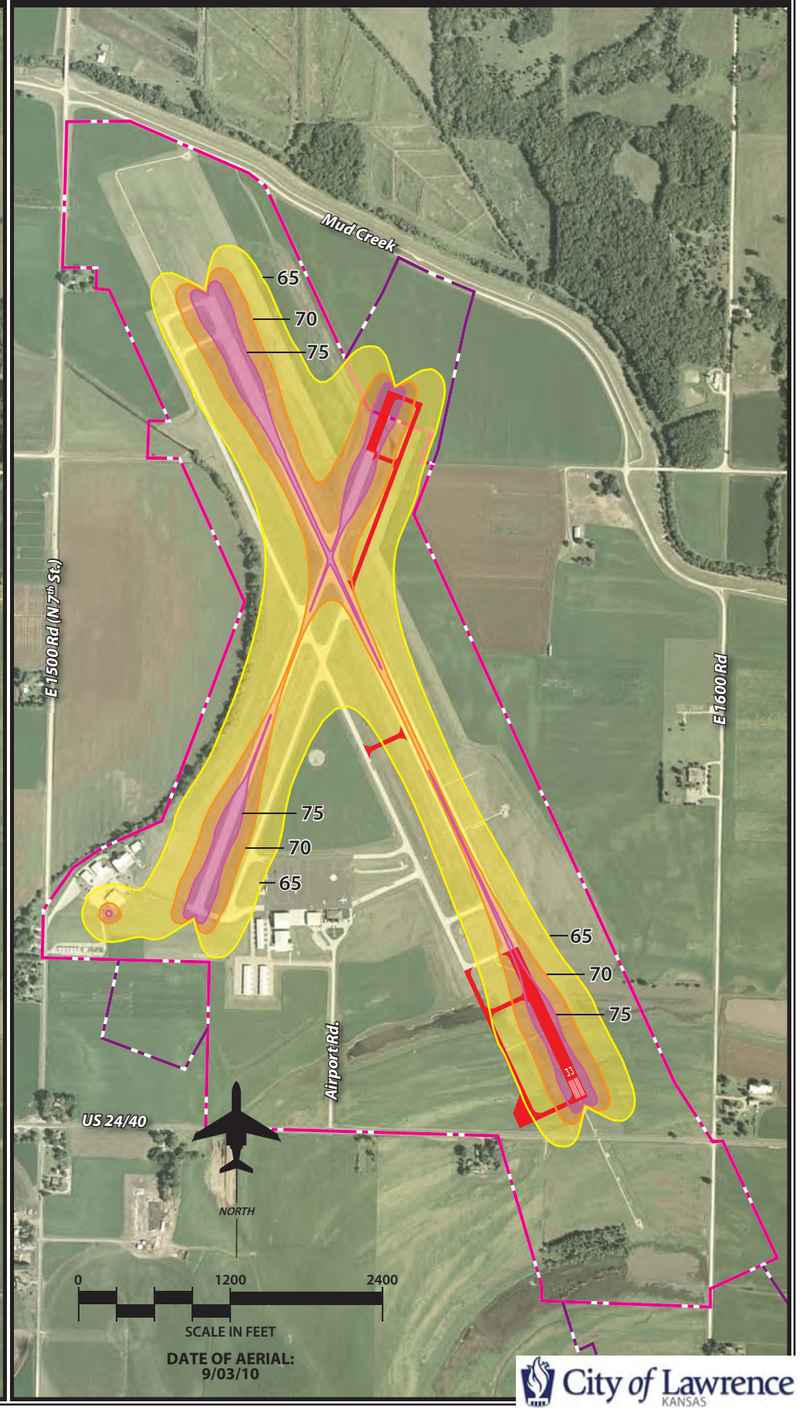
2010 NOISE EXPOSURE CONTOURS



2015 NOISE EXPOSURE CONTOURS



2030 NOISE EXPOSURE CONTOURS



City of Lawrence KANSAS

Exhibit D2
NOISE EXPOSURE CONTOURS

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 02/04/2022
AFD EFF 01/27/2022
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY:	LAWRENCE	4 STATE: KS	LOC ID: LWC	FAA SITE NR: 06721.*A
> 2 AIRPORT NAME:	LAWRENCE RGNL		5 COUNTY: DOUGLAS, KS	
3 CBD TO AIRPORT (NM): 3 N		6 REGION/ADO: ACE /	7 SECT AERO CHT: KANSAS CITY	

GENERAL

10 OWNERSHIP:	PUBLIC
> 11 OWNER:	CITY OF LAWRENCE
> 12 ADDRESS:	PO BOX 708 LAWRENCE, KS 66044
> 13 PHONE NR:	785-832-3467
> 14 MANAGER:	SCOTT WAGNER
> 15 ADDRESS:	6 EAST 6TH STREET LAWRENCE, KS 66044
> 16 PHONE NR:	785-832-3467

> 17 ATTENDANCE SCHEDULE:

MONTHS	DAYS	HOURS
ALL	ALL	0800-2000

18 AIRPORT USE:	PUBLIC
19 ARPT LAT:	39-0-40N ESTIMATED
20 ARPT LONG:	95-12-59.3W
21 ARPT ELEV:	833.3 SURVEYED
22 ACREAGE:	486
> 23 RIGHT TRAFFIC:	NO
> 24 NON-COMM LANDING:	NO
25 NPIAS/FED AGREEMENTS:	YES / NGY
> 26 FAR 139 INDEX:	/

SERVICES

> 70 FUEL:	100LL A
> 71 AIRFRAME RPRS:	MAJOR
> 72 PWR PLANT RPRS:	MAJOR
> 73 BOTTLE OXYGEN:	HIGH
> 74 BULK OXYGEN:	HIGH
75 TSNT STORAGE:	HGR TIE
76 OTHER SERVICES:	AMB,CHTR,INSTR, RNTL,SALES

FACILITIES

> 80 ARPT BCN:	CG
> 81 ARPT LGT SKED:	SEE RMK
BCN LGT SKED:	SS-SR
> 82 UNICOM:	123.000
> 83 WIND INDICATOR:	YES-L
84 SEGMENTED CIRCLE:	YES
85 CONTROL TWR:	NO
86 FSS:	WICHITA
87 FSS ON ARPT:	NO
88 FSS PHONE NR:	
89 TOLL FREE NR:	1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	31
91 MULTI ENG:	5
92 JET:	2
93 HELICOPTERS:	26
TOTAL:	64
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	1,400
103 G A LOCAL:	13,300
104 G A ITNRNT:	12,500
105 MILITARY:	208
TOTAL:	27,408

OPERATIONS FOR 12 MONTHS ENDING 08/31/2021

RUNWAY DATA

		01/19	15/33
> 30 RUNWAY IDENT:			
> 31 LENGTH:		3,901	5,700
> 32 WIDTH:		75	100
> 33 SURF TYPE-COND:		CONC-G	ASPH-E
> 34 SURF TREATMENT:			
35 GROSS WT:	S	12.5	40.0
36 (IN THSDS)	D	15.6	60.0
37	2D		
38	2D/2DS		
> 39 PCN / PCR:		4/R/D/Y/U (PCN)	16/F/C/Y/U (PCN)

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	MED	MED
> 42 RWY MARK TYPE-COND:	NPI- F / NPI- F	NPI- G / PIR- G
> 43 VGSI:	P2L / P2L	P4L / P4R
44 THR CROSSING HGT:	40 / 40	45 / 52
45 VISUAL GLIDE ANGLE:	3.50 / 3.50	3.00 / 3.00
> 46 CNTRLN-TDZ:	- / -	- / -
> 47 RVR-RVV:	- / -	- / -
> 48 REIL:	Y / Y	Y /
> 49 APCH LIGHTS:	/	/ MALSR

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	A(V) / A(V)	C / PIR
> 51 DISPLACED THR:	/	/
> 52 CTLG OBSTN:	/	/ TREES
> 53 OBSTN MARKED/LGTD:	/	/
> 54 HGT ABOVE RWY END:	/	/ 49
> 55 DIST FROM RWY END:	0 / 0	0 / 2,462
> 56 CNTRLN OFFSET:	/	/ 531L
57 OBSTN CLNC SLOPE:	20:1 / 20:1	34:1 / 46:1
58 CLOSE-IN OBSTN:	N / N	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	/	/
> 61 TAKE OFF DIST AVBL (TODA):	/	/
> 62 ACLT STOP DIST AVBL (ASDA):	/	/
> 63 LNDG DIST AVBL (LDA):	/	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

A 016 AFT HRS APRT MGR CTC - 785-813-5765

A 070 AFT HRS FUEL CTC - 785-865-6500.

A 081 ACTVT MALSR RWY 33; REIL RWY 01, 15, & 19; PAPI RWY 01, 19, 15 & 33; MIRL RWY 01/19 & 15/33 - CTAF.

111 INSPECTOR: (S) 112 LAST INSP: 09/03/2021 113 LAST INFO REQ:

Small Airport Noise Worksheet

Use this worksheet to identify information needed to evaluate a site's exposure to aircraft noise.

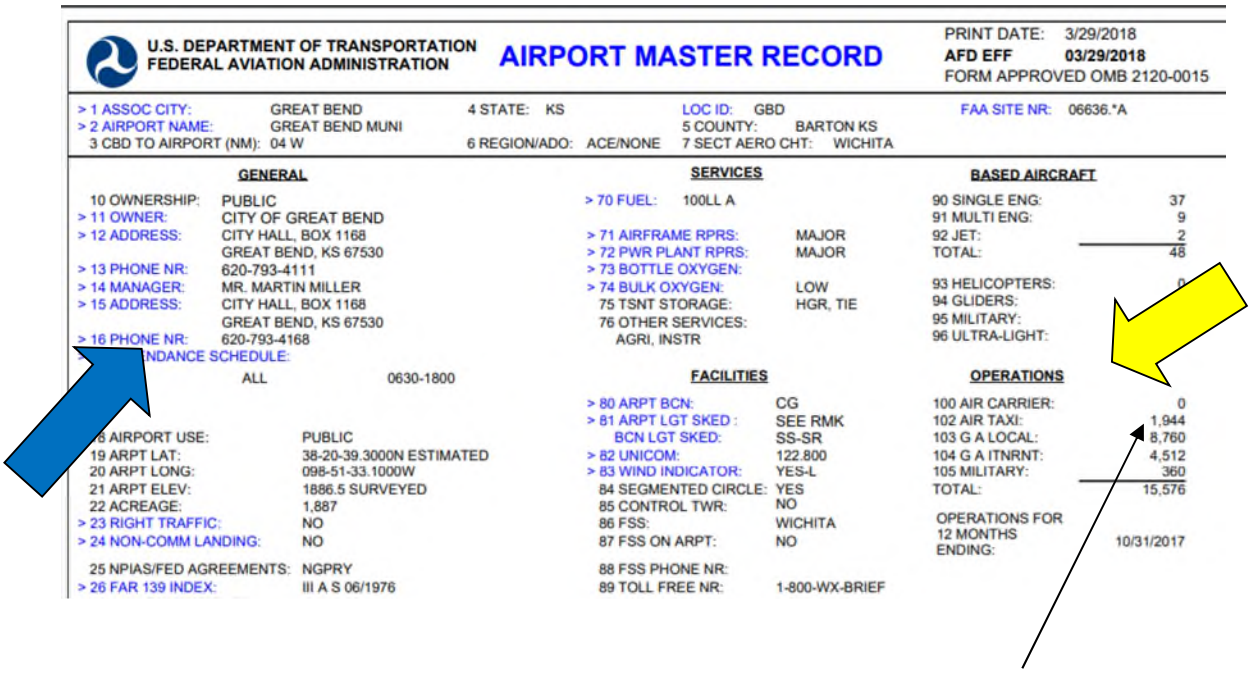
Name and Location of Project: Michigan Six - 105 Michigan St
Name of Airport: Lawrence Regional Airport (LWC)
Person completing worksheet: Brad Karr Date: 02/04/2022

1. Determine if the proposed site/project is within 15 miles of a civil or military airport.

○ No. Attach a scaled map identifying the location of the proposed project site and the location of any airports. *Further use of this worksheet is not required.*

◉ Yes. Attach a scaled map identifying the location of the proposed project site and the location of any airports. *Continue.*

2. Determine the number of operations at the airport by:
   - Go to: https://adip.faa.gov/agis/public/#/public
   - Find your airport using the Search function
   - Open the report under "Print 5010"
   - Complete section 3 below by using Operations data found in the report (see yellow arrow in the example below)



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 3/29/2018
AFD EFF 03/29/2018
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY: GREAT BEND 4 STATE: KS LOC ID: GBD FAA SITE NR: 06636.*A
> 2 AIRPORT NAME: GREAT BEND MUNI 5 COUNTY: BARTON KS
3 CBD TO AIRPORT (NM): 04 W 6 REGION/ADO: ACE/NONE 7 SECT AERO CHT: WICHITA

GENERAL

10 OWNERSHIP: PUBLIC
> 11 OWNER: CITY OF GREAT BEND
> 12 ADDRESS: CITY HALL, BOX 1168
GREAT BEND, KS 67530
> 13 PHONE NR: 620-793-4111
> 14 MANAGER: MR. MARTIN MILLER
> 15 ADDRESS: CITY HALL, BOX 1168
GREAT BEND, KS 67530
> 16 PHONE NR: 620-793-4168
> NDANCE SCHEDULE:
ALL 0630-1800

6 AIRPORT USE: PUBLIC
19 ARPT LAT: 38-20-39.3000N ESTIMATED
20 ARPT LONG: 098-51-33.1000W
21 ARPT ELEV: 1886.5 SURVEYED
22 ACREAGE: 1,887
> 23 RIGHT TRAFFIC: NO
> 24 NON-COMM LANDING: NO

25 NPIAS/FED AGREEMENTS: NGPRY
> 26 FAR 139 INDEX: III A S 06/1976

SERVICES

> 70 FUEL: 100LL A

> 71 AIRFRAME RPRS: MAJOR
> 72 PWR PLANT RPRS: MAJOR
> 73 BOTTLE OXYGEN:
> 74 BULK OXYGEN: LOW
75 TSNT STORAGE: HGR, TIE
76 OTHER SERVICES: AGRI, INSTR

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED : SEE RMK
BCN LGT SKED: SS-SR
> 82 UNICOM: 122.800
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: YES
85 CONTROL TWR: NO
86 FSS: WICHITA
87 FSS ON ARPT: NO

88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG: 37
91 MULTI ENG: 9
92 JET: 2
TOTAL: 48

93 HELICOPTERS: 0
94 GLIDERS:
95 MILITARY:
96 ULTRA-LIGHT:

OPERATIONS

100 AIR CARRIER: 0
102 AIR TAXI: 1,944
103 G A LOCAL: 8,760
104 G A ITNRNT: 4,512
105 MILITARY: 360
TOTAL: 15,576

OPERATIONS FOR 12 MONTHS ENDING: 10/31/2017

3. Determine if the annual number of operations for air carriers (#100), air taxis (#102), military (#105), and general aviation (#103 plus #104) exceeds the thresholds provided below.

#100 Annual air carrier operations 0. Is this 9,000 or more? Yes __ No X
#102 Annual air taxi operations 1,400. Is this 18,000 or more? Yes __ No X
#105 Annual military operations 208. Is this 18,000 or more? Yes __ No X
#103+#104 Annual general aviation operations 25,800. Is this 72,000 or more? Yes__ No X

4. If you answer "No" on each of the questions above, it is assumed the noise attributed to the airplanes will not extend beyond the boundaries of the airport. Maintain the documentation

in your Environmental Review Record (ERR). You are finished with the evaluation of airport noise for this airport.

If you have marked any question in #3 with "Yes," continue to 5.

5. Contact the airport manager, (see blue arrow above) and ask them if the airport has noise contour maps. Are contour maps available?

◯ Yes. Locate your project on the noise contour map. If there are no roads or railroads that are being considered for noise, utilize the information from the contour map to determine if the site is acceptable. If roads or railroads are being considered, input the information obtained from the airport noise contours, along with the road and railroad information, into HUD online noise calculation tool at http://www.hud.gov/offices/cpd/environment/dnlcalculator.cfm.

◯ No. Construct the approximate DNL contours by using the guidance on page 52 and 53 of the HUD Noise Guidebook. You will need to obtain the following information from the airport:

(a) The number of nighttime jet operations (10pm to 7 am).
(b) The number of daytime jet operations (7 am to 10 pm).
(c) The flight paths of the major runways.
(d) Any available information about expected changes in airport traffic (e.g., will the number of operations increase or decrease in the next 10 to 15 years?).

Contact your HUD Environmental Officer if you need assistance.

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 02/04/2022
AFD EFF 01/27/2022
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY:	BALDWIN CITY	4 STATE: KS	LOC ID: K64	FAA SITE NR: 06484.11*A
> 2 AIRPORT NAME:	VINLAND VALLEY AERODROME		5 COUNTY: DOUGLAS, KS	
3 CBD TO AIRPORT (NM): 3 N		6 REGION/ADO: ACE /	7 SECT AERO CHT: KANSAS CITY	

GENERAL

10 OWNERSHIP:	PRIVATE
> 11 OWNER:	K64 LLC
> 12 ADDRESS:	696 E. 1700 RD.
	BALDWIN CITY, KS 66006
> 13 PHONE NR:	785-594-2741
> 14 MANAGER:	DAVID MCFARLANE
> 15 ADDRESS:	696 E. 1700 RD
	BALDWIN CITY, KS 66006
> 16 PHONE NR:	785-594-2741

> 17 ATTENDANCE SCHEDULE:

MONTHS	DAYS	HOURS
ALL	FRIDAY	0730-1700
ALL	MON-THURS	0730-1730

18 AIRPORT USE:	PUBLIC
19 ARPT LAT:	38-50-10.07N ESTIMATED
20 ARPT LONG:	95-10-55.33W
21 ARPT ELEV:	890.0 ESTIMATED
22 ACREAGE:	23
> 23 RIGHT TRAFFIC:	NO
> 24 NON-COMM LANDING:	NO
25 NPIAS/FED AGREEMENTS:	
> 26 FAR 139 INDEX:	/

SERVICES

> 70 FUEL:	100LL
> 71 AIRFRAME RPRS:	
> 72 PWR PLANT RPRS:	
> 73 BOTTLE OXYGEN:	
> 74 BULK OXYGEN:	
75 TSNT STORAGE:	TIE
76 OTHER SERVICES:	INSTR,RNTL

FACILITIES

> 80 ARPT BCN:	
> 81 ARPT LGT SKED:	SEE RMK
BCN LGT SKED:	
> 82 UNICOM:	
> 83 WIND INDICATOR:	YES
84 SEGMENTED CIRCLE:	NONE
85 CONTROL TWR:	NO
86 FSS:	WICHITA
87 FSS ON ARPT:	NO
88 FSS PHONE NR:	
89 TOLL FREE NR:	1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	22
91 MULTI ENG:	0
92 JET:	0
93 HELICOPTERS:	0
TOTAL:	22
94 GLIDERS:	0
95 MILITARY:	0
96 ULTRA-LIGHT:	0

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	0
103 G A LOCAL:	5,000
104 G A ITNRNT:	500
105 MILITARY:	0
TOTAL:	5,500

OPERATIONS FOR 12 MONTHS ENDING 08/31/2018

RUNWAY DATA

> 30 RUNWAY IDENT:	**16/34**
> 31 LENGTH:	3,030
> 32 WIDTH:	80
> 33 SURF TYPE-COND:	TURF-G
> 34 SURF TREATMENT:	
35 GROSS WT: S	
36 (IN THSDS) D	
37 2D	
38 2D/2DS	
> 39 PCN / PCR:	

LIGHTING/APCH AIDS

> 40 EDGE INTENSITY:	NSTD
> 42 RWY MARK TYPE-COND:	- / -
> 43 VGSI:	/
44 THR CROSSING HGT:	/
45 VISUAL GLIDE ANGLE:	/
> 46 CNTRLN-TDZ:	- / -
> 47 RVR-RVV:	- / -
> 48 REIL:	/
> 49 APCH LIGHTS:	/

OBSTRUCTION DATA

50 FAR 77 CATEGORY:	A(V) / A(V)
> 51 DISPLACED THR:	/
> 52 CTLG OBSTN:	TREE / TREE
> 53 OBSTN MARKED/LGTD:	/
> 54 HGT ABOVE RWY END:	35 / 31
> 55 DIST FROM RWY END:	427 / 608
> 56 CNTRLN OFFSET:	81L / 176L
57 OBSTN CLNC SLOPE:	12:1 / 19:1
58 CLOSE-IN OBSTN:	N / N

DECLARED DISTANCES

> 60 TAKE OFF RUN AVBL (TORA):	/
> 61 TAKE OFF DIST AVBL (TODA):	/
> 62 ACLT STOP DIST AVBL (ASDA):	/
> 63 LNDG DIST AVBL (LDA):	/

(>) ARPT MGR PLEASE ADVISE FSS IN ITEM 86 WHEN CHANGES OCCUR TO ITEMS PRECEDED BY >

> 110 REMARKS:

A 016	EXT 222. ALT NR: 785-248-3833.
A 040	RWY 16/34 NSTD LIRL.
A 070	FUEL ONLY AVLB OP HRS OR W/PRIOR ARRANGEMENT
A 081	DUSK-DAWN. ACTVT LIRL RY 16/34 - CTAF 3 CLICKS
A 110-001	TALL TREES L SIDE AER 16.
A 110-004	PATTERN ALTITUDE: FIXED WING AIRCRAFT: 1690 MSL.
A 110-005	FOR CD CTC KANSAS CITY ARTCC AT 913-254-8508.

111 INSPECTOR: (S) 112 LAST INSP: 09/08/2021 113 LAST INFO REQ:

Small Airport Noise Worksheet

Use this worksheet to identify information needed to evaluate a site's exposure to aircraft noise.

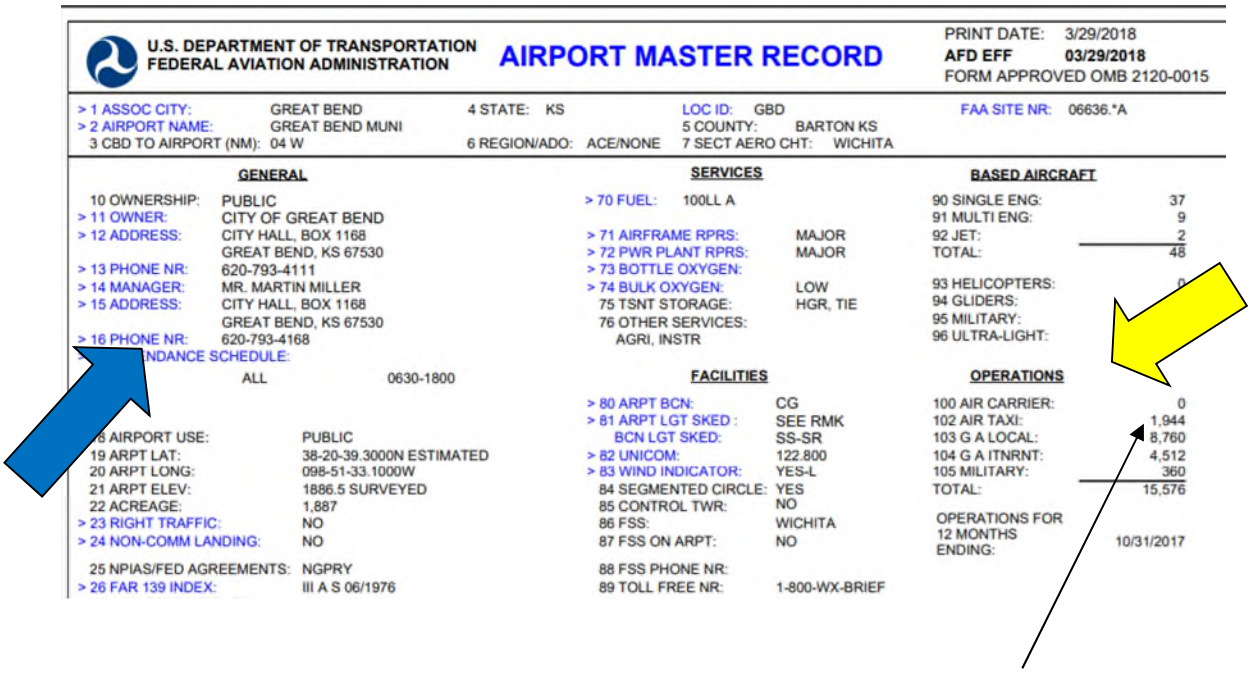
Name and Location of Project: Michigan Six - 105 Michigan St
Name of Airport: Vinland Valley Aerodrome
Person completing worksheet: Brad Karr Date: 02/04/2022

1. Determine if the proposed site/project is within 15 miles of a civil or military airport.

○ No. Attach a scaled map identifying the location of the proposed project site and the location of any airports. *Further use of this worksheet is not required.*

◉ Yes. Attach a scaled map identifying the location of the proposed project site and the location of any airports. *Continue.*

2. Determine the number of operations at the airport by:
   - Go to: https://adip.faa.gov/agis/public/#/public
   - Find your airport using the Search function
   - Open the report under "Print 5010"
   - Complete section 3 below by using Operations data found in the report (see yellow arrow in the example below)



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

AIRPORT MASTER RECORD

PRINT DATE: 3/29/2018
AFD EFF 03/29/2018
FORM APPROVED OMB 2120-0015

> 1 ASSOC CITY: GREAT BEND 4 STATE: KS LOC ID: GBD FAA SITE NR: 06636.*A
> 2 AIRPORT NAME: GREAT BEND MUNI 5 COUNTY: BARTON KS
3 CBD TO AIRPORT (NM): 04 W 6 REGION/ADO: ACE/NONE 7 SECT AERO CHT: WICHITA

GENERAL

10 OWNERSHIP: PUBLIC
> 11 OWNER: CITY OF GREAT BEND
> 12 ADDRESS: CITY HALL, BOX 1168
GREAT BEND, KS 67530
> 13 PHONE NR: 620-793-4111
> 14 MANAGER: MR. MARTIN MILLER
> 15 ADDRESS: CITY HALL, BOX 1168
GREAT BEND, KS 67530
> 16 PHONE NR: 620-793-4168
> NDANCE SCHEDULE:
ALL 0630-1800

6 AIRPORT USE: PUBLIC
19 ARPT LAT: 38-20-39.3000N ESTIMATED
20 ARPT LONG: 098-51-33.1000W
21 ARPT ELEV: 1886.5 SURVEYED
22 ACREAGE: 1,887
> 23 RIGHT TRAFFIC: NO
> 24 NON-COMM LANDING: NO

25 NPIAS/FED AGREEMENTS: NGPRY
> 26 FAR 139 INDEX: III A S 06/1976

SERVICES

> 70 FUEL: 100LL A

> 71 AIRFRAME RPRS: MAJOR
> 72 PWR PLANT RPRS: MAJOR
> 73 BOTTLE OXYGEN:
> 74 BULK OXYGEN: LOW
75 TSNT STORAGE: HGR, TIE
76 OTHER SERVICES:
AGRI, INSTR

FACILITIES

> 80 ARPT BCN: CG
> 81 ARPT LGT SKED: SEE RMK
BCN LGT SKED: SS-SR
> 82 UNICOM: 122.800
> 83 WIND INDICATOR: YES-L
84 SEGMENTED CIRCLE: YES
85 CONTROL TWR: NO
86 FSS: WICHITA
87 FSS ON ARPT: NO

88 FSS PHONE NR:
89 TOLL FREE NR: 1-800-WX-BRIEF

BASED AIRCRAFT

90 SINGLE ENG:	37
91 MULTI ENG:	9
92 JET:	2
TOTAL:	48
93 HELICOPTERS:	0
94 GLIDERS:	
95 MILITARY:	
96 ULTRA-LIGHT:	

OPERATIONS

100 AIR CARRIER:	0
102 AIR TAXI:	1,944
103 G A LOCAL:	8,760
104 G A ITNRNT:	4,512
105 MILITARY:	360
TOTAL:	15,576
OPERATIONS FOR 12 MONTHS ENDING:	10/31/2017

3. Determine if the annual number of operations for air carriers (#100), air taxis (#102), military (#105), and general aviation (#103 plus #104) exceeds the thresholds provided below.

#100 Annual air carrier operations 0. Is this 9,000 or more? Yes __ No X
#102 Annual air taxi operations 0. Is this 18,000 or more? Yes __ No X
#105 Annual military operations 0. Is this 18,000 or more? Yes __ No X
#103+#104 Annual general aviation operations 5,500. Is this 72,000 or more? Yes__ No X

4. If you answer "No" on each of the questions above, it is assumed the noise attributed to the airplanes will not extend beyond the boundaries of the airport. Maintain the documentation

in your Environmental Review Record (ERR). You are finished with the evaluation of airport noise for this airport.

If you have marked any question in #3 with "Yes," continue to 5.

5. Contact the airport manager, (see blue arrow above) and ask them if the airport has noise contour maps. Are contour maps available?

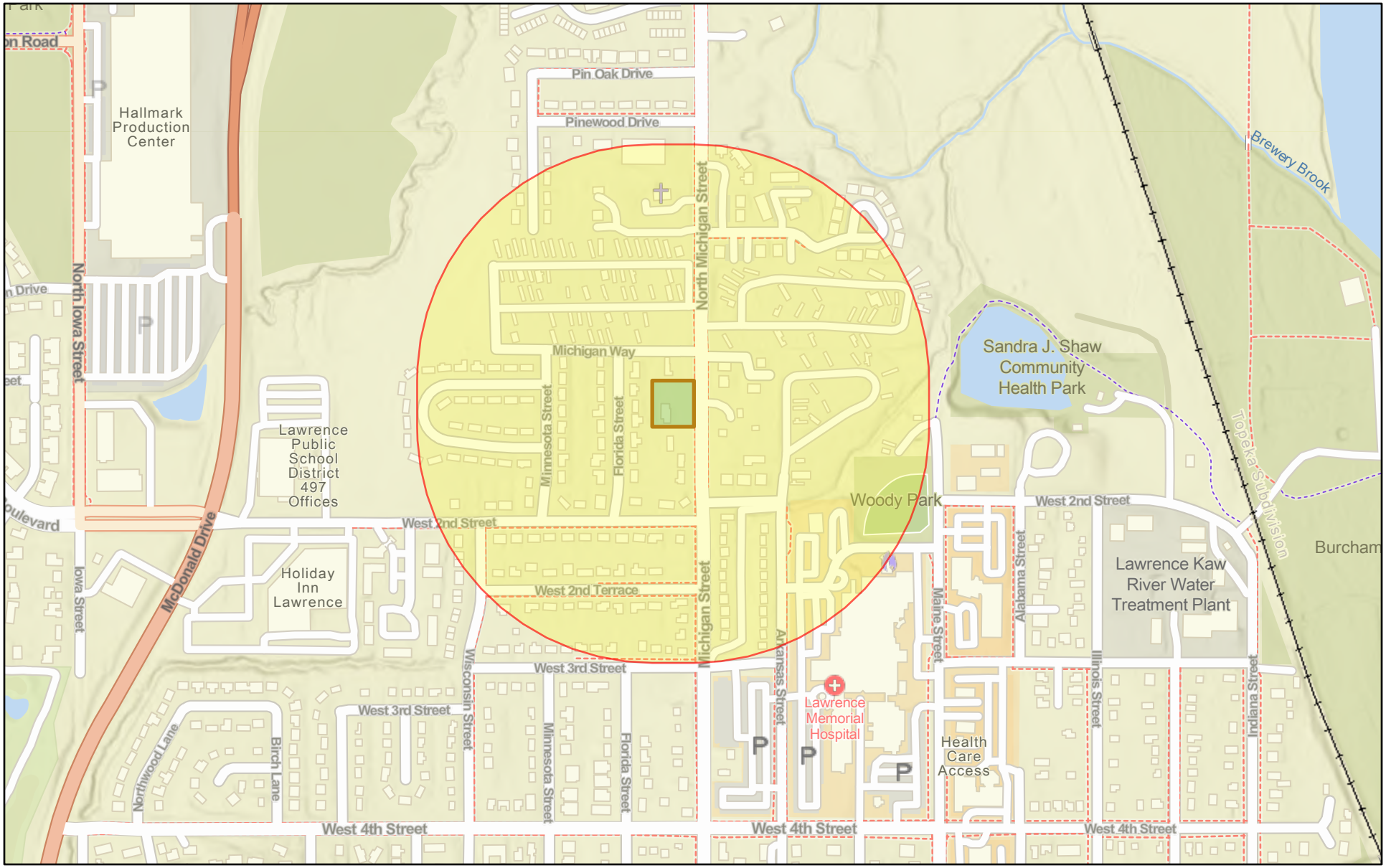
◯ Yes. Locate your project on the noise contour map. If there are no roads or railroads that are being considered for noise, utilize the information from the contour map to determine if the site is acceptable. If roads or railroads are being considered, input the information obtained from the airport noise contours, along with the road and railroad information, into HUD online noise calculation tool at http://www.hud.gov/offices/cpd/environment/dnlcalculator.cfm.

◯ No. Construct the approximate DNL contours by using the guidance on page 52 and 53 of the HUD Noise Guidebook. You will need to obtain the following information from the airport:

(a) The number of nighttime jet operations (10pm to 7 am).
(b) The number of daytime jet operations (7 am to 10 pm).
(c) The flight paths of the major runways.
(d) Any available information about expected changes in airport traffic (e.g., will the number of operations increase or decrease in the next 10 to 15 years?).

Contact your HUD Environmental Officer if you need assistance.

105 Michigan St - 1000' buffer



January 28, 2022

Project Buffer

105 Michigan St

Airport Points

Airport Polygons

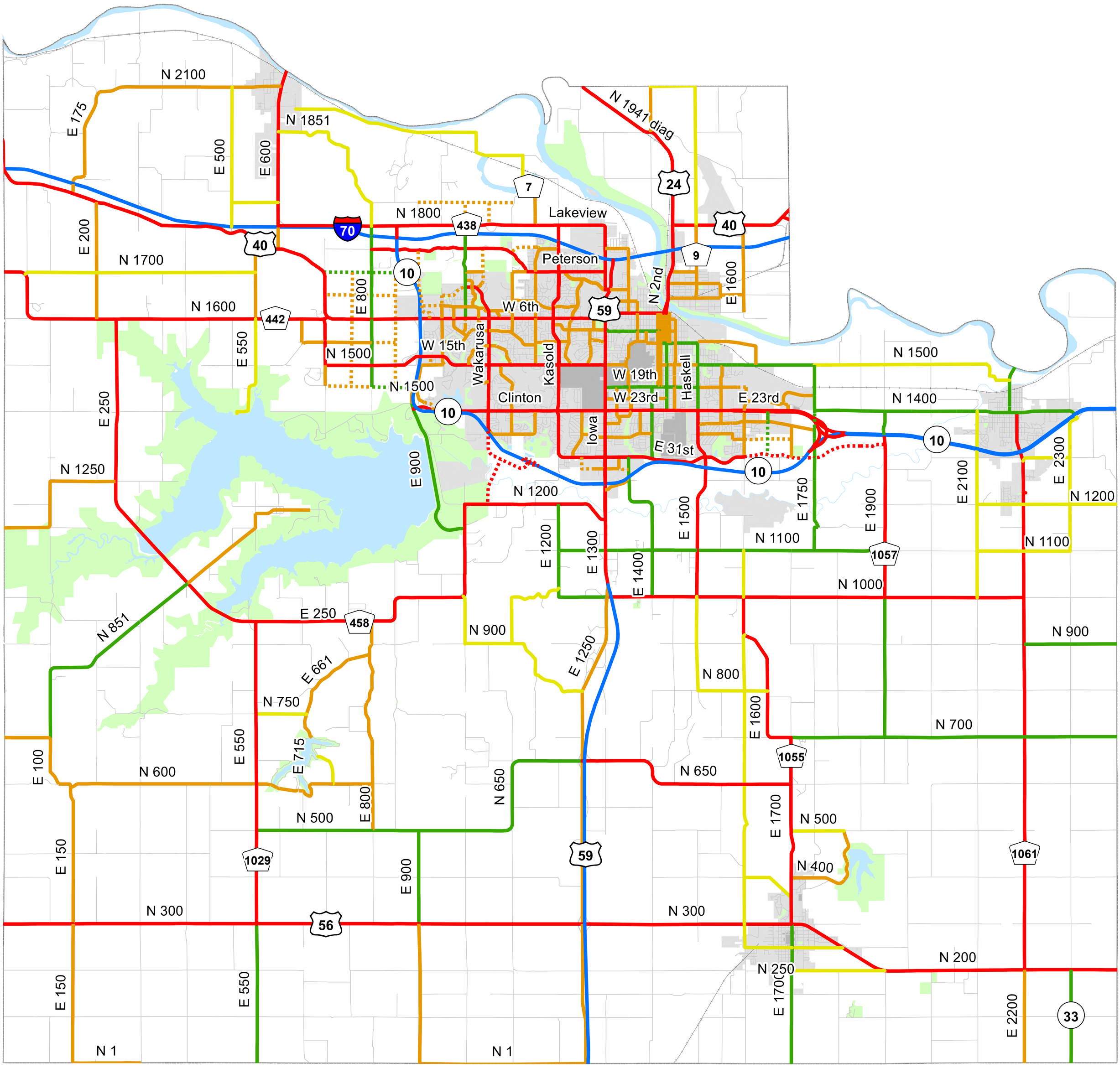
Railroads

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

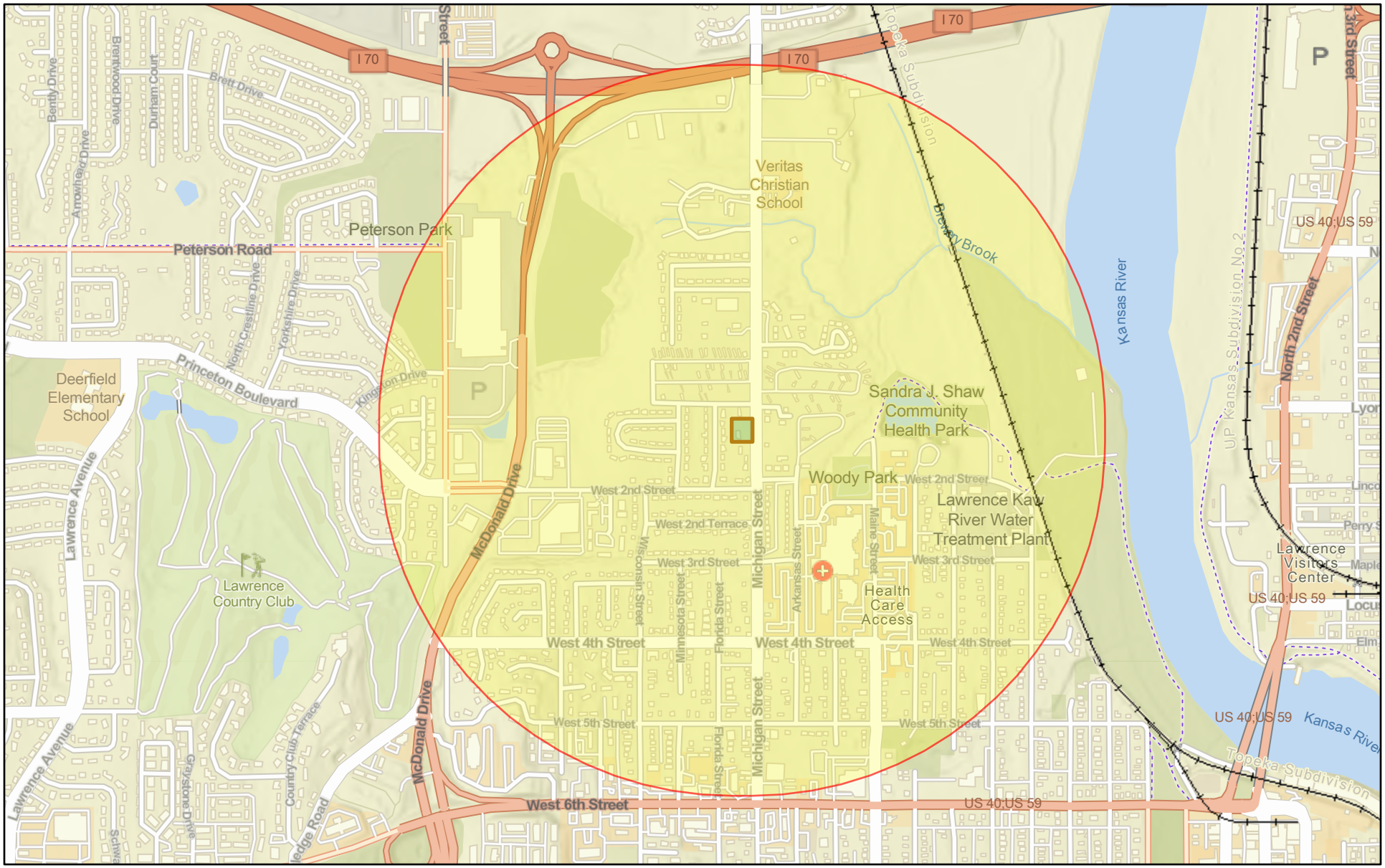
T2040 Major Thoroughfares



Source: Lawrence-Douglas County MPO (2018)
Approved by Lawrence-Douglas County MPO Policy Board 3-15-18. Incorporated into Lawrence-Douglas County Comprehensive Plan (CPA-18-00168) 8-14-18 by Lawrence City Commission Ordinance 9520
Produced: Lawrence-Douglas County MPO (2018)

Future Freeway
Principal Arterial
Future Principal Arterial
Minor Arterial
Collector/Rural Major Collector
Future Collector
Rural Minor Collector
City Limits
Parks
Water

105 Michigan St - 3000' buffer



January 28, 2022

Project Buffer

105 Michigan St

Airport Points

Airport Polygons

Railroads

1:18,056

0 0.1 0.2 0.4 mi

0 0.17 0.35 0.7 km

105 Michigan St distance to railroad - 2076'

1/28/2022, 3:39:37 PM

Parcels

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Surdex Corp, Douglas County, Kansas

Web AppBuilder for ArcGIS

City of Lawrence Kansas

U. S. DOT CROSSING INVENTORY FORM

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

OMB No. 2130-0017

Instructions for the initial reporting of the following types of new or previously unreported crossings: For public highway-rail grade crossings, complete the entire inventory Form. For private highway-rail grade crossings, complete the Header, Parts I and II, and the Submission Information section. For public pathway grade crossings (including pedestrian station grade crossings), complete the Header, Parts I and II, and the Submission Information section. For Private pathway grade crossings, complete the Header, Parts I and II, and the Submission Information section. For grade-separated highway-rail or pathway crossings (including pedestrian station crossings), complete the Header, Part I, and the Submission Information section. For changes to existing data, complete the Header, Part I Items 1-3, and the Submission Information section, in addition to the updated data fields. Note: For private crossings only, Part I Item 20 and Part III Item 2.K. are required unless otherwise noted. An asterisk * denotes an optional field.

A. Revision Date *(MM/DD/YYYY)*	B. Reporting Agency	C. Reason for Update *(Select only one)*	D. DOT Crossing Inventory Number
11 / 04 / 2021	☐ Railroad ☐ Transit ☒ State ☐ Other	☒ Change in Data ☐ New Crossing ☐ Closed ☐ No Train Traffic ☐ Quiet Zone Update ☐ Re-Open ☐ Date Change Only ☐ Change in Primary Operating RR ☐ Admin. Correction	005862B

Part I: Location and Classification Information

1. Primary Operating Railroad	2. State	3. County
BNSF Railway Company [BNSF]	KANSAS	DOUGLAS

4. City / Municipality	5. Street/Road Name & Block Number	6. Highway Type & No.
☒ In ☐ Near LAWRENCE	At West 2nd and Indiana Streets *(Street/Road Name)* | ** (Block Number)*	LS

7. Do Other Railroads Operate a Separate Track at Crossing?	8. Do Other Railroads Operate Over Your Track at Crossing?
☐ Yes ☒ No If Yes, Specify RR	☒ Yes ☐ No If Yes, Specify RR ATK

9. Railroad Division or Region	10. Railroad Subdivision or District	11. Branch or Line Name	12. RR Milepost
☐ None KANSAS	☐ None TOPEKA	☐ None HOLLIDAY-NR JCT	| 0027.510 | *(prefix) | (nnnn.nnn) | (suffix)*

13. Line Segment *	14. Nearest RR Timetable Station *	15. Parent RR *(if applicable)*	16. Crossing Owner *(if applicable)*
7101	LAWRENCE YD, KS	☒ N/A	☐ N/A BNSF

17. Crossing Type	18. Crossing Purpose	19. Crossing Position	20. Public Access *(if Private Crossing)*	21. Type of Train	22. Average Passenger Train Count Per Day
☐ Public ☒ Private	☒ Highway ☐ Pathway, Ped. ☐ Station, Ped.	☒ At Grade ☐ RR Under ☐ RR Over	☐ Yes ☐ No	☒ Freight ☐ Transit ☒ Intercity Passenger ☐ Shared Use Transit ☐ Commuter ☐ Tourist/Other	☐ Less Than One Per Day ☒ Number Per Day 2

23. Type of Land Use
☐ Open Space ☐ Farm ☐ Residential ☐ Commercial ☒ Industrial ☐ Institutional ☐ Recreational ☐ RR Yard

24. Is there an Adjacent Crossing with a Separate Number?	25. Quiet Zone *(FRA provided)*
☐ Yes ☒ No If Yes, Provide Crossing Number	☒ No ☐ 24 Hr ☐ Partial ☐ Chicago Excused Date Established

26. HSR Corridor ID	27. Latitude in decimal degrees	28. Longitude in decimal degrees	29. Lat/Long Source
☒ N/A	*(WGS84 std: nn.nnnnnnn)* 38.9805718	*(WGS84 std: -nnn.nnnnnnn)* -95.2428888	☒ Actual ☐ Estimated

30.A. Railroad Use *	31.A. State Use *
	Lat/Long: 38.9805638, -95.2428888
30.B. Railroad Use *	**31.B. State Use *** 2 Crossbucks on Flashing Lights & Gates
30.C. Railroad Use *	**31.C. State Use *** KDOT 2019 Inventory Status: Active
30.D. Railroad Use *	**31.D. State Use *** 2021 Per City of Lawrence a "PRIVATE" Crossing. Drive into
32.A. Narrative *(Railroad Use)* * (I.27 I.28 I.29)Value Provided by Railroad, Not Ye	**32.B. Narrative** *(State Use)* *

33. Emergency Notification Telephone No. *(posted)*	34. Railroad Contact *(Telephone No.)*	35. State Contact *(Telephone No.)*
800-832-5452	817-352-1549	785-296-7121

Part II: Railroad Information

1. Estimated Number of Daily Train Movements

1.A. Total Day Thru Trains *(6 AM to 6 PM)*	1.B. Total Night Thru Trains *(6 PM to 6 AM)*	1.C. Total Switching Trains	1.D. Total Transit Trains	1.E. Check if Less Than One Movement Per Day ☐ How many trains per week?
3	3	0	0	

2. Year of Train Count Data *(YYYY)*	3. Speed of Train at Crossing
2019	3.A. Maximum Timetable Speed *(mph)* 79 3.B. Typical Speed Range Over Crossing *(mph)* From 1 to 79

4. Type and Count of Tracks
Main 1 Siding 0 Yard 0 Transit 0 Industry 0

5. Train Detection *(Main Track only)*
☐ Constant Warning Time ☒ Motion Detection ☐AFO ☐ PTC ☐ DC ☐ Other ☐ None

6. Is Track Signaled?	7.A. Event Recorder	7.B. Remote Health Monitoring
☒ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

U. S. DOT CROSSING INVENTORY FORM

A. Revision Date *(MM/DD/YYYY)*	PAGE 2	D. Crossing Inventory Number *(7 char.)*
11/04/2021		005862B

Part III: Highway or Pathway Traffic Control Device Information

1. Are there Signs or Signals? ☒ Yes ☐ No

2. Types of Passive Traffic Control Devices associated with the Crossing

2.A. Crossbuck Assemblies *(count)*	2.B. STOP Signs *(R1-1)* *(count)*	2.C. YIELD Signs *(R1-2)* *(count)*	2.D. Advance Warning Signs *(Check all that apply; include count)* ☐ None
0	0	0	☒ W10-1 2 ☐ W10-3 ☐ W10-11 ☐ W10-2 ☐ W10-4 ☐ W10-12

2.E. Low Ground Clearance Sign *(W10-5)*	2.F. Pavement Markings	2.G. Channelization Devices/Medians	2.H. EXEMPT Sign *(R15-3)*	2.I. ENS Sign *(I-13)* Displayed
☐ Yes *(count_____)* ☒ No	☐ Stop Lines ☐ Dynamic Envelope ☐ RR Xing Symbols ☒ None	☐ All Approaches ☐ Median ☐ One Approach ☒ None	☐ Yes ☒ No	☒ Yes ☐ No

2.J. Other MUTCD Signs	2.K. Private Crossing Signs *(if private)*	2.L. LED Enhanced Signs *(List types)*
☐ Yes ☒ No Specify Type _____ Count _____ Specify Type _____ Count _____ Specify Type _____ Count _____	☐ Yes ☐ No	0

3. Types of Train Activated Warning Devices at the Grade Crossing *(specify count of each device for all that apply)*

3.A. Gate Arms *(count)*	3.B. Gate Configuration	3.C. Cantilevered *(or Bridged)* Flashing Light Structures *(count)*	3.D. Mast Mounted Flashing Lights *(count of masts)* 2	3.E. Total Count of Flashing Light Pairs
Roadway 2 Pedestrian 0	☒ 2 Quad ☐ Full *(Barrier)* Resistance ☐ 3 Quad ☐ 4 Quad ☐ Median Gates	Over Traffic Lane 0 ☐ Incandescent Not Over Traffic Lane 0 ☐ LED	☐ Incandescent ☒ LED ☒ Back Lights Included ☐ Side Lights Included	4

3.F. Installation Date of Current Active Warning Devices: *(MM/YYYY)*	3.G. Wayside Horn	3.H. Highway Traffic Signals Controlling Crossing	3.I. Bells *(count)*
_____/_____ ☒ Not Required	☐ Yes Installed on *(MM/YYYY)* _____/_____ ☒ No	☐ Yes ☒ No	1

3.J. Non-Train Active Warning	3.K. Other Flashing Lights or Warning Devices
☐ Flagging/Flagman ☐ Manually Operated Signals ☐ Watchman ☐ Floodlighting ☒ None	Count 0 Specify type _____

4.A. Does nearby Hwy Intersection have Traffic Signals?	4.B. Hwy Traffic Signal Interconnection	4.C. Hwy Traffic Signal Preemption	5. Highway Traffic Pre-Signals	6. Highway Monitoring Devices *(Check all that apply)*
☐ Yes ☒ No	☒ Not Interconnected ☐ For Traffic Signals ☐ For Warning Signs	☐ Simultaneous ☐ Advance	☐ Yes ☒ No Storage Distance * _____ Stop Line Distance * _____	☐ Yes - Photo/Video Recording ☐ Yes – Vehicle Presence Detection ☒ None

Part IV: Physical Characteristics

1. Traffic Lanes Crossing Railroad	2. Is Roadway/Pathway Paved?	3. Does Track Run Down a Street?	4. Is Crossing Illuminated? *(Street lights within approx. 50 feet from nearest rail)*
☐ One-way Traffic ☒ Two-way Traffic ☐ Divided Traffic Number of Lanes 2	☒ Yes ☐ No	☐ Yes ☒ No	☐ Yes ☒ No

5. Crossing Surface *(on Main Track, multiple types allowed)* Installation Date * *(MM/YYYY)* _____/_____ Width * _____ Length * 36

☐ 1 Timber ☐ 2 Asphalt ☐ 3 Asphalt and Timber ☒ 4 Concrete ☐ 5 Concrete and Rubber ☐ 6 Rubber ☐ 7 Metal
☐ 8 Unconsolidated ☐ 9 Composite ☐ 10 Other *(specify)* _____

6. Intersecting Roadway within 500 feet?	7. Smallest Crossing Angle	8. Is Commercial Power Available? *
☒ Yes ☐ No If Yes, Approximate Distance *(feet)* 85	☐ 0° – 29° ☐ 30° – 59° ☒ 60° - 90°	☒ Yes ☐ No

Part V: Public Highway Information

1. Highway System	2. Functional Classification of Road at Crossing	3. Is Crossing on State Highway System?	4. Highway Speed Limit
☐ (01) Interstate Highway System ☐ (02) Other Nat Hwy System (NHS) ☐ (03) Federal AID, Not NHS ☒ (08) Non-Federal Aid	☐ (0) Rural ☒ (1) Urban ☐ (1) Interstate ☐ (5) Major Collector ☐ (2) Other Freeways and Expressways ☐ (3) Other Principal Arterial ☐ (6) Minor Collector ☐ (4) Minor Arterial ☒ (7) Local	☐ Yes ☒ No	30 MPH ☐ Posted ☒ Statutory

5. Linear Referencing System *(LRS Route ID)* *

6. LRS Milepost *

7. Annual Average Daily Traffic *(AADT)*	8. Estimated Percent Trucks	9. Regularly Used by School Buses?	10. Emergency Services Route
Year 2019 AADT 000415	00 %	☐ Yes ☒ No Average Number per Day _____	☐ Yes ☒ No

Submission Information - *This information is used for administrative purposes and is not available on the public website.*

Submitted by _____ Organization _____ Phone _____ Date _____

DNL Calculator

The Day/Night Noise Level Calculator is an electronic assessment tool that calculates the Day/Night Noise Level (DNL) from roadway and railway traffic. For more information on using the DNL calculator, view the **Day/Night Noise Level Calculator Electronic Assessment Tool Overview (/programs/environmental-review/daynight-noise-level-electronic-assessment-tool/)**.

Guidelines

- To display the Road and/or Rail DNL calculator(s), click on the "Add Road Source" and/or "Add Rail Source" button(s) below.
- All Road and Rail input values must be positive non-decimal numbers.
- All Road and/or Rail DNL value(s) must be calculated separately before calculating the Site DNL.
- All checkboxes that apply must be checked for vehicles and trains in the tables' headers.
- **Note #1:** Tooltips, containing field specific information, have been added in this tool and may be accessed by hovering over all the respective data fields (site identification, roadway and railway assessment, DNL calculation results, roadway and railway input variables) with the mouse.
- **Note #2:** DNL Calculator assumes roadway data is always entered.

DNL Calculator

Site ID	105 Michigan Street Lawrence, KS
Record Date	02/04/2022
User's Name	Brad Karr

Railroad #1 Track Identifier:	**BNSF/AMTRACK - Crossing Inventory 005862B**

Rail # 1

Train Type	Electric ☐	Diesel ☑
Effective Distance		2076
Average Train Speed		40
Engines per Train		2
Railway cars per Train		50
Average Train Operations (ATO)		6
Night Fraction of ATO		33
Railway whistles or horns?	Yes: ☐ No: ☐	Yes: ☑ No: ☐
Bolted Tracks?	Yes: ☐ No: ☐	Yes: ☐ No: ☑
Train DNL	0	53
Calculate Rail #1 DNL	53	Reset

Add Road Source | Add Rail Source

Airport Noise Level	0
Loud Impulse Sounds?	○Yes ◉No

Combined DNL for all Road and Rail sources	**53**
Combined DNL including Airport	**N/A**
Site DNL with Loud Impulse Sound	

Calculate | Reset

Mitigation Options

If your site DNL is in Excess of 65 decibels, your options are:

- **No Action Alternative**: Cancel the project at this location
- **Other Reasonable Alternatives**: Choose an alternate site
- **Mitigation**
    - **Contact your Field or Regional Environmental Officer (/programs/environmental-review/hud-environmental-staff-contacts/)**
    - Increase mitigation in the building walls (only effective if no outdoor, noise sensitive areas)
    - Reconfigure the site plan to increase the distance between the noise source and noise-sensitive uses
    - Incorporate natural or man-made barriers. See ***The Noise Guidebook (/resource/313/hud-noise-guidebook/)***
    - Construct noise barrier. See the **Barrier Performance Module (/programs/environmental-review/bpm-calculator/)**

Tools and Guidance

Day/Night Noise Level Assessment Tool User Guide (/resource/3822/day-night-noise-level-assessment-tool-user-guide/)

Day/Night Noise Level Assessment Tool Flowcharts (/resource/3823/day-night-noise-level-assessment-tool-flowcharts/)

Sole Source Aquifers

General requirements	Legislation	Regulation
The Safe Drinking Water Act of 1974 protects drinking water systems which are the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.	Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300f et seq., and 21 U.S.C. 349)	40 CFR Part 149

1. Does the project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?

Yes

✓ No

2. Is the project located on a sole source aquifer (SSA)?

A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This includes streamflow source areas, which are upstream areas of losing streams that flow into the recharge area.

✓ No

Based on the response, the review is in compliance with this section. Document and upload documentation used to make your determination, such as a map of your project (or jurisdiction, if appropriate) in relation to the nearest SSA and its source area, below.

Yes

Screen Summary

Compliance Determination

The project is not located on a sole source aquifer area. The State of Kansas currently has no designated Sole Source Aquifers according to EPA Region 7 Drinking Water/Ground Water Branch, and the EPA.gov webpage map for Sole Source Aquifers. The project is in compliance with Sole Source Aquifer requirements.

Attached are maps indicating there are no Sole Source Aquifers located in the jurisdiction or the State.

Supporting documentation

Sole Source Aquifers 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Sole Source Aquifers (CEST and EA)

General requirements	Legislation	Regulation
The Safe Drinking Water Act of 1974 protects drinking water systems which are the sole or principal drinking water source for an area and which, if contaminated, would create a significant hazard to public health.	Safe Drinking Water Act of 1974 (42 U.S.C. 201, 300f et seq., and 21 U.S.C. 349)	40 CFR Part 149
Reference		
https://www.hudexchange.info/environmental-review/sole-source-aquifers		

1. **Does your project consist solely of acquisition, leasing, or rehabilitation of an existing building(s)?**

   ☐Yes → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below.*

   ☒No → *Continue to Question 2.*

2. **Is the project located on a sole source aquifer (SSA)[1]?**

   ☒No → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination, such as a map of your project (or jurisdiction, if appropriate) in relation to the nearest SSA and its source area.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

The State of Kansas currently has no designated Sole Source Aquifers according to EPA, Region 7 Drinking Water/Ground Water Branch, and the EPA.gov webpage map for Sole Source Aquifers. The project is in compliance with Sole Source Aquifer requirements. Attached are maps indicating there are no Sole Source Aquifers located in the jurisdiction or state.

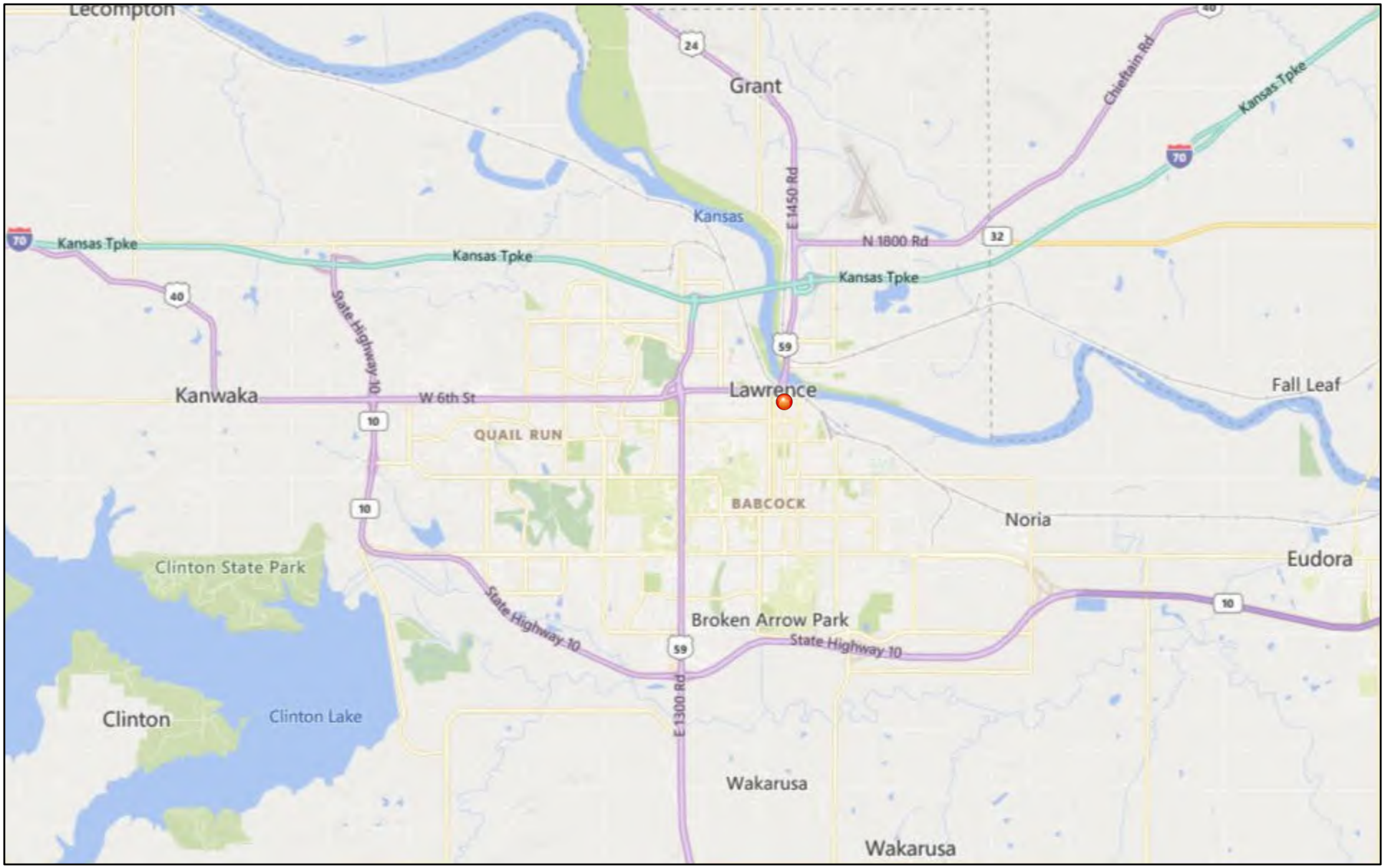
[1] A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. This includes streamflow source areas, which are upstream areas of losing streams that flow into the recharge area.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

Sole Source Aquifers - Lawrence, KS



April 8, 2021

1:144,448

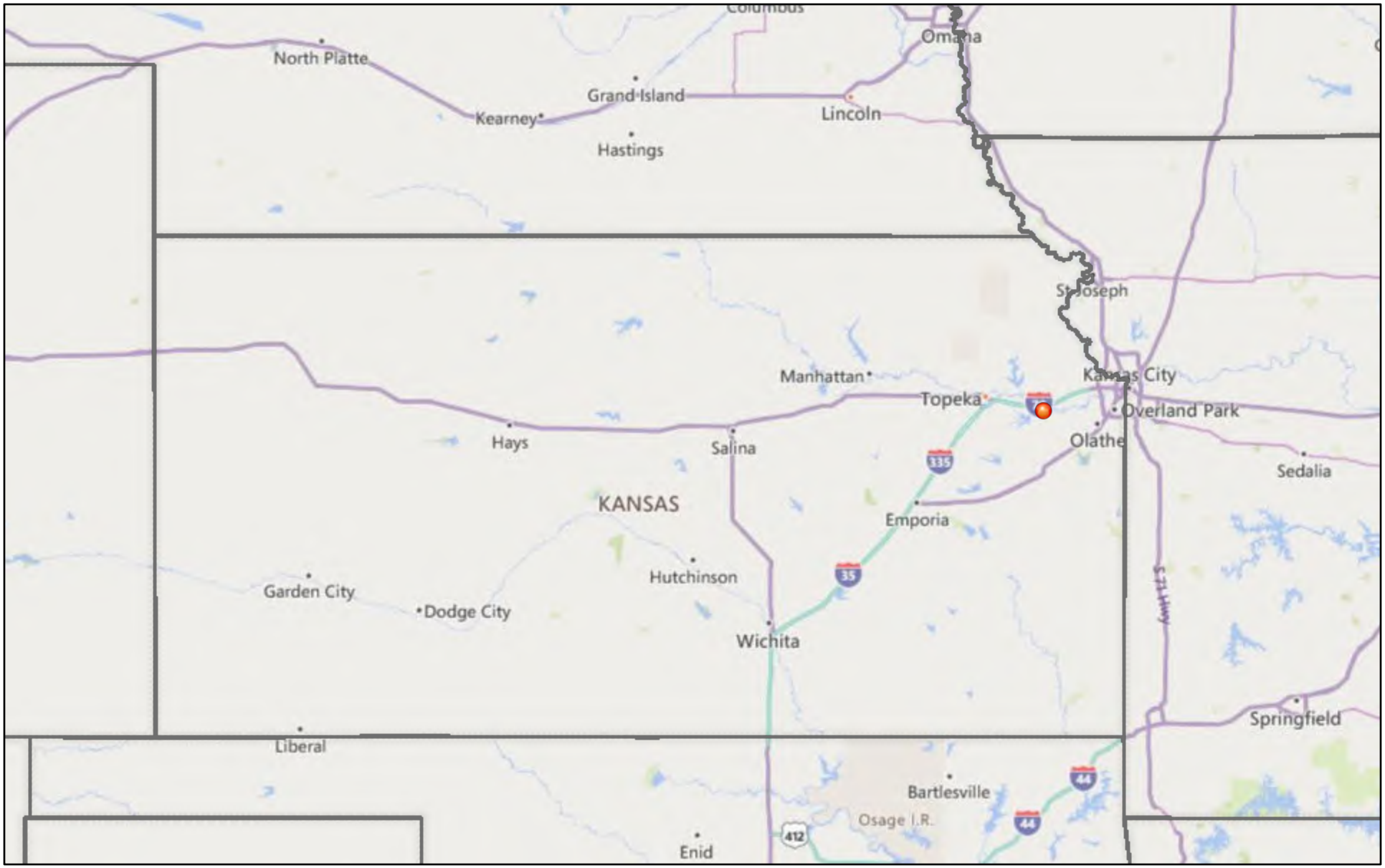
0 0.75 1.5 3 mi

0 1.5 3 6 km

Lawrence, KS

Sole Source Aquifers

Sole Source Aquifers - Kansas



April 8, 2021

Lawrence, KS

Sole Source Aquifers

States

1:4,622,324

0 30 60 120 mi

0 45 90 180 km

Sole Source Aquifers - Kansas

4/8/2021, 3:22:28 PM

Sole_Source_Aquifers

1:9,244,667

0 62.5 125 250 mi

0 95 190 380 km

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand),

U.S. Environmental Protection Agency

Wetlands Protection

General requirements	Legislation	Regulation
Executive Order 11990 discourages direct or indirect support of new construction impacting wetlands wherever there is a practicable alternative. The Fish and Wildlife Service's National Wetlands Inventory can be used as a primary screening tool, but observed or known wetlands not indicated on NWI maps must also be processed Off-site impacts that result in draining, impounding, or destroying wetlands must also be processed.	Executive Order 11990	24 CFR 55.20 can be used for general guidance regarding the 8 Step Process.

1. Does this project involve new construction as defined in Executive Order 11990, expansion of a building's footprint, or ground disturbance? The term "new construction" shall include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of the Order

No

✓ Yes

2. Will the new construction or other ground disturbance impact an on- or off-site wetland? The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds.

"Wetlands under E.O. 11990 include isolated and non-jurisdictional wetlands."

✓ No, a wetland will not be impacted in terms of E.O. 11990's definition of new construction.

Based on the response, the review is in compliance with this section. Document and upload a map or any other relevant documentation below which explains your determination

Yes, there is a wetland that be impacted in terms of E.O. 11990's definition of new construction.

Screen Summary
Compliance Determination

The project will not impact on- or off-site wetlands. The project is in compliance with Executive Order 11990. See attached National Wetlands Inventory map of the project site and surrounding areas.

Supporting documentation

Wetlands Protection 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

✓ No

Wetlands (CEST and EA)

General requirements	Legislation	Regulation
Executive Order 11990 discourages that direct or indirect support of new construction impacting wetlands wherever there is a practicable alternative. The Fish and Wildlife Service's National Wetlands Inventory can be used as a primary screening tool, but observed or known wetlands not indicated on NWI maps must also be processed. Off-site impacts that result in draining, impounding, or destroying wetlands must also be processed.	Executive Order 11990	24 CFR 55.20 can be used for general guidance regarding the 8 Step Process.
References		
https://www.hudexchange.info/environmental-review/wetlands-protection		

1. **Does this project involve new construction as defined in Executive Order 11990, expansion of a building's footprint, or ground disturbance?**
   The term "new construction" shall include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of the Order.
   ☒ Yes → *Continue to Question 2.*

2. **Will the new construction or other ground disturbance impact an on- or off-site wetland?**
   The term "wetlands" means those areas that are inundated by surface or ground water with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. Wetlands under E.O. 11990 include isolated and non-jurisdictional wetlands.

   ☒ No, a wetland will not be impacted in terms of E.O. 11990's definition of new construction.
   → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide a map or any other relevant documentation to explain your determination.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

The project will not impact on- or off-site wetlands. The project is in compliance with Executive Order 11990. See attached National Wetlands Inventory map of the project site and surrounding areas.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

U.S. Fish and Wildlife Service

National Wetlands Inventory

105 Michigan St, Lawrence, KS

January 21, 2022

Wetlands

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

Wild and Scenic Rivers Act

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297

1. Is your project within proximity of a NWSRS river?

✓ No

Yes, the project is in proximity of a Designated Wild and Scenic River or Study Wild and Scenic River.
Yes, the project is in proximity of a Nationwide Rivers Inventory (NRI) River.

Screen Summary

Compliance Determination

There are no Wild and Scenic Rivers designated in the state of Kansas. (Source: National Wild and Scenic Rivers System website); per the same site, there are no active or pending river studies in Kansas. Per the National Rivers Inventory system, there is one river in Douglas County on the list. The Kansas River NRI River Segment. The Outstandingly Remarkable Values of this river segment are listed as: Cultural, Fish, Recreational, Scenic, and Wildlife. Per HUD's Wild and Scenic Rivers website: Boundaries for protected rivers generally extend one-quarter mile from either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values. The project site is not located in a .25-mile proximity of the Kansas River NRI River Segment, therefore no adverse effects will occur. The project is not a water resources project that could affect the free-flowing condition of the river. The project is in compliance with the Wild and Scenic Rivers Act. See attached Wild and Scenic Rivers Worksheet packet.

Supporting documentation

Wild and Scenic Rivers 105 Michigan St packet.pdf

Are formal compliance steps or mitigation required?

Yes

- ✓ No

Wild and Scenic Rivers (CEST and EA)

General requirements	Legislation	Regulation
The Wild and Scenic Rivers Act provides federal protection for certain free-flowing, wild, scenic and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS) from the effects of construction or development.	The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), particularly section 7(b) and (c) (16 U.S.C. 1278(b) and (c))	36 CFR Part 297
References		
https://www.hudexchange.info/environmental-review/wild-and-scenic-rivers		

1. **Is your project within proximity of a NWSRS river as defined below?**
   Wild & Scenic Rivers: These rivers or river segments have been designated by Congress or by states (with the concurrence of the Secretary of the Interior) as wild, scenic, or recreational
   Study Rivers: These rivers or river segments are being studied as a potential component of the Wild & Scenic River system.
   Nationwide Rivers Inventory (NRI): The National Park Service has compiled and maintains the NRI, a register of river segments that potentially qualify as national wild, scenic, or recreational river areas

   ☒ No

   → *Based on the response, the review is in compliance with this section. Continue to the Worksheet Summary below. Provide documentation used to make your determination, such as a map identifying the project site and its surrounding area or a list of rivers in your region in the Screen Summary at the conclusion of this screen.*

Worksheet Summary

Compliance Determination

Provide a clear description of your determination and a synopsis of the information that it was based on, such as:

- Map panel numbers and dates
- Names of all consulted parties and relevant consultation dates
- Names of plans or reports and relevant page numbers
- Any additional requirements specific to your region

There are no Wild and Scenic Rivers designated in the state of Kansas. (Source: National Wild and Scenic Rivers System website); per the same site, there are no active or pending river studies in Kansas.

Per the National Rivers Inventory system, there is one river in Douglas County on the list: The Kansas River NRI River Segment. The Outstandingly Remarkable Values of this river segment are listed as: Cultural, Fish, Recreational, Scenic, and Wildlife.

Per HUD's Wild and Scenic Rivers website: "Boundaries for protected rivers generally extend one-quarter mile from either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values."

The project site is not located in a .25-mile proximity of the Kansas River NRI River Segment, therefore no adverse effects will occur. The project is not a water resources project that could affect the free-flowing condition of the river. The project is in compliance with the Wild and Scenic Rivers Act. See attached Wild and Scenic Rivers Worksheet packet.

Are formal compliance steps or mitigation required?

☐ Yes

☒ No

KANSAS

Kansas has approximately 133,956 miles of river, but no designated wild & scenic rivers.

+ View larger map

Choose A State Go

Choose A River Go

Nourished by the fertile soils of the region, rivers of the Midwest explode with life, from great avian migrations to ancient fishes.

Kansas does not have any designated rivers.

WILD & SCENIC RIVER STUDIES

Wild & Scenic River Studies

There are two study provisions in the Act — Section 5(a), through which Congress directs the study of select rivers, and Section 5(d)(1), which directs federal agencies to identify potential additions to the National Wild and Scenic Rivers System (National System) through federal agency plans. A brief explanation is provided in the following respective sections.

Choose A State Go
Choose A River Go

While progress should never come to a halt, there are many places it should never come to at all. — Paul Newman

Current Active Studies

Currently, there are three rivers or river systems under "authorized" study—two under Section 5(a) of the Wild & Scenic Rivers Act and one under Section 2(a)(ii). This does not include those that might be under assessment as part of normal agency land-planning processes.

Rivers Currently Under Study

- **Cave, Lake, No Name and Panther Creeks, Oregon** (Public Law 113-291, December 19, 2014) – Under study by the National Park Service.
- **Housatonic River, Connecticut** (Governor Malloy Request for Section 2(a)(ii) Designation, November 16, 2016) – Under study by the National Park Service.
- **York River, Maine**. (Public Law 113-291, December 19, 2014) – Under study by the National Park Service.

Section 2(a)(ii) Studies

Under Section 2(a)(ii) of the Act, a governor (or governors for a river in multiple states) of a state can request that a river be designated, provided certain conditions are met (refer to the **Council White Paper on Section 2(a)(ii)** for specifics). The NPS then conducts a study to determine of certain conditions are met. Here are some of the studis conducted under Section 2(a)(ii). Again, if you don't see a study listed, we do not have a copy.

Section 2(a)(ii) Studies Available for Download

Section 5(d)(1), Agency-Identified Studies

In recent years, hundreds of rivers have been identified for study through Section 5(d)(1) of the Act. This provision directs federal agencies to identify potential addition to the National System through their respective resource and management plans. Its application has resulted in numerous individual river designations, statewide legislation (e.g., Omnibus Oregon Wild and Scenic Rivers Act, P.L. 100-557; Michigan Scenic Rivers Act, P.L. 102-249) and multi-state legislation (e.g., Omnibus Public Land Management Act of 2009, P.L. 111-11). Here are examples of agency-identified studies and transmittal documents (if available).

Section 5(d)(1) Studies Available for Download

Congressionally Authorized Study Reports

We have collected a few of the study reports prepared at the direction of Congress (see next section, "Section 5(a), Congressionally Authorized Studies," for the complete list of congressionally authorized studies). If you do not see a report here, we do not have it, and you will have to contact the study agency at the local level for a copy.

Congressionally Authorized Study Reports Available for Download

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Section 5(a), Congressionally Authorized Studies

Through Section 5(a), Congress authorizes the study of select rivers and directs one of the four federal river-administering agencies to conduct the study, as outlined in Sections 4(a) and 5(c) of the Wild & Scenic Rivers Act. The enabling legislation of 1968, P.L. 90-542, authorized 27 rivers for study as potential components of the National System. Amendments to the law have increased the number of studies authorized by Congress to 144.

These studies have lead to 48 designations by either Congress or the Secretary of the Interior. One study led to the establishment of a National Recreation Area.

The number of rivers included in the National System differs from the number of rivers authorized for study by Congress for the following reasons:

- Not all rivers studied are found eligible or suitable for designation—many study rivers will not be included in the National System.
- Some rivers are designated by Congress or the Secretary of the Interior without a pre-authorization or 5(a) study (e.g., Niobrara River).
- Some rivers are designated as a result of recommendation in federal agency plans (e.g., 49 rivers designated in Oregon in 1988).

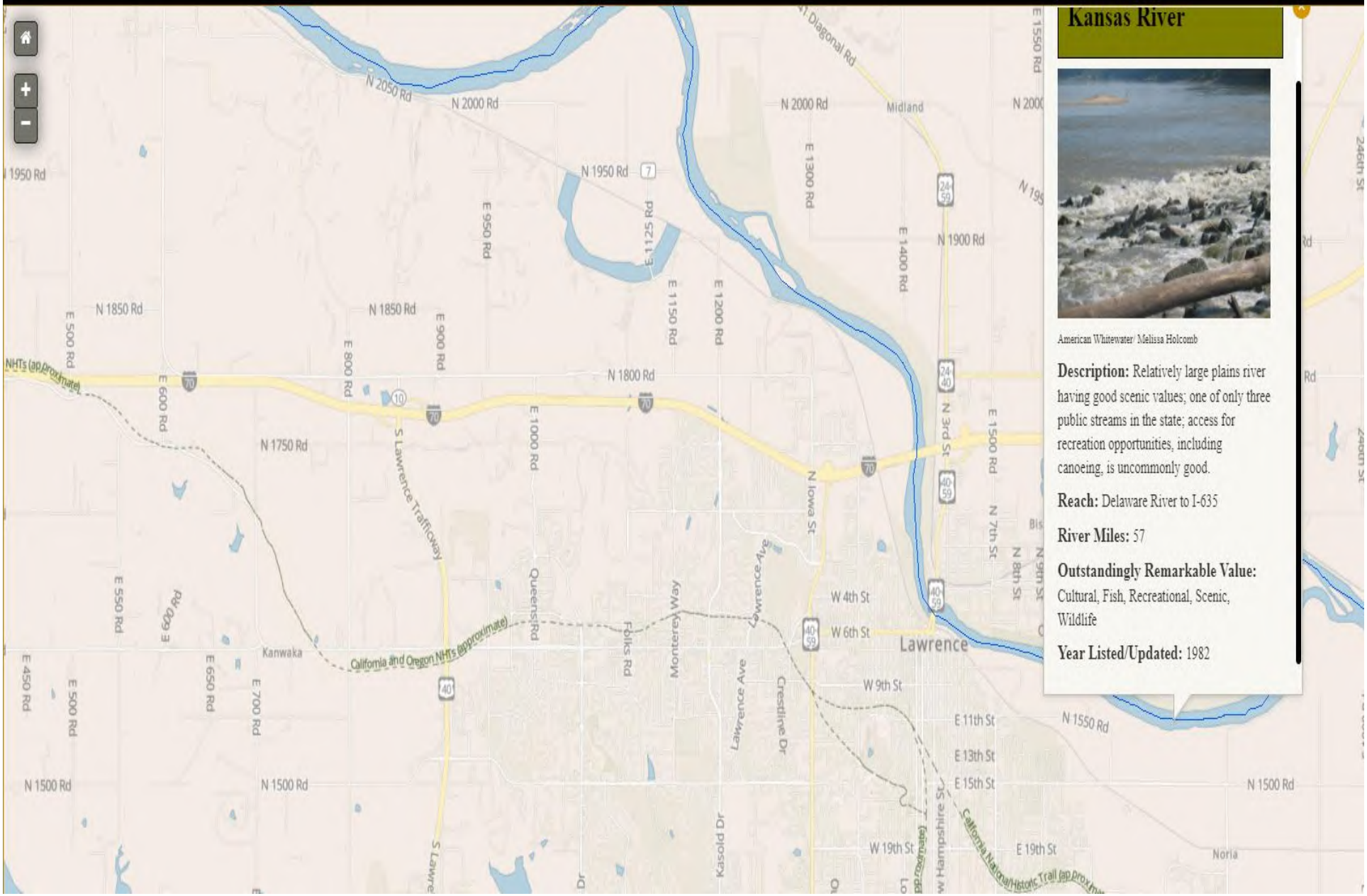
The 144 rivers below have been authorized for study. The agency leading the study is indicated as National Park Service (NPS), Bureau of Outdoor Recreation (BOR), Heritage Conservation and Recreation Service (HCRS), Bureau of Land Management (BLM), or U.S. Forest Service (USFS). Within the Department of the Interior, the study function was transferred from the HCRS (formerly the BOR) to the NPS by Secretarial Order Number 3017, January 25, 1978. All studies indicated as BOR or HCRS were completed by these agencies before the program was transferred to the NPS. The BLM was delegated responsibility for conducting studies on Public Lands on October 11, 1988. The USFS (Department of Agriculture) has always conducted studies on National Forest System Lands and as directed by Congress.

For each study river, the number in parentheses is the approximate number of miles to be studied. If river segments were designated, the total designated mileage appears in the text.

Section 5(a), Congressionally Authorized Studies

Nationwide Rivers Inventory

This is a listing of more than 3,200 free-flowing river segments in the U.S. that are believed to possess one or more "outstandingly remarkable" values.



National Park Service

Rivers

Kansas

River	County	Reach	Length (miles)	Description	Potential Classification	ORVs	Watershed (HUC Code 8)	
Kansas River	Wyandotte, Johnson, Leavenworth, Douglas, Jefferson	Delaware River to I-635	57	Relatively large plains river having good scenic values; one of only three public streams in the state; access for recreation opportunities, including canoeing, is uncommonly good.	Cultural, Fish, Recreational, Scenic, Wildlife	Kansas	1982	

Wild and Scenic Rivers

Introduction

The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) provides federal protection for certain free-flowing, wild, scenic, and recreational rivers designated as components or potential components of the National Wild and Scenic Rivers System (NWSRS). The National Wild and Scenic Rivers System (NWSRS) was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq., as amended) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. It encourages river management that crosses political boundaries and promotes public participation in developing goals for river protection.

Each river or river segment in the National Wild and Scenic Rivers System is administered with the goal of protecting and enhancing the values that caused it to be eligible for inclusion in the system. Designated rivers need not include the entire river and may include tributaries.

Four primary federal agencies are charged with protection and managing our wild and scenic rivers: the National Park Service, Bureau of Land Management, U.S. Forest Service and U.S. Fish and Wildlife Service. Each river segment is administered by generally one of these federal agencies and/or a state agency and, in some cases, a tribe or in coordination with local government. Boundaries for protected rivers generally extend one-quarter mile from either bank in the lower 48 states and one-half mile on rivers outside national parks in Alaska in order to protect river-related values.

HUD-assisted activities are subject to the requirements of the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.). The environmental review must evaluate the potential to impact any listed Wild and Scenic River when the assisted project is within proximity to a listed natural resource (**24 CFR 58.5(f) (https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title24/24cfr58_main_02.tpl)** or **24 CFR 50.4(f) (https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=1948aa60e0ceb1e3b501f985b9315c79&r=PART&n=24y1.1.1.1.29)**).

HUD Guidance

Is your project within proximity of a NWSRS river as defined below?

Wild and Scenic Rivers. (http://www.rivers.gov/map.php) These rivers or river segments have been designated by Congress or by states (with the concurrence of the Secretary of the Interior) as wild, scenic or recreational.

Study Rivers. (http://www.rivers.gov/study.php) These rivers or river segments are being studied as a potential component of the Wild & Scenic River system.

Nationwide Rivers Inventory (NRI). (http://www.nps.gov/ncrc/programs/rtca/nri/) The National Park Service has compiled and maintains the NRI, a register of river segments that potentially qualify as national wild, scenic or recreational river areas.

If so, is your project a water resources project? A water resources project is a federally assisted project that could affect the free-flowing condition of a wild and scenic river. Examples include dams, water diversion projects, bridges, roadway construction or reconstruction, boat ramps, and activities that require a Section 404 permit from the Army Corps of Engineers.

If so, could the project do any of the following?

- Have a direct and adverse effect within wild and scenic river boundaries

- Invade the area or unreasonably diminish the river outside wild and scenic river boundaries
- Have an adverse effect on the natural, cultural, and/or recreational values of an NRI segment

Consultation with the appropriate federal, state, local, and/or tribal Managing Agency is required, pursuant to Section 7 of the Act, to determine if the proposed project may have an adverse effect on a wild and scenic river or a study river and, if so, to determine the appropriate avoidance or mitigation measures. The Managing Agency for a particular river segment generally is the National Park Service, the Bureau of Land Management, U.S. Forest Service, or U.S. Fish and Wildlife Service; for some river segments, a state agency, tribe, or a local government may also be a Managing Agency. For rivers listed in the NRI, the National Park Service (NPS) is the point of contact. Under Section 5 of the Act, the NPS can provide recommendations that the Responsible Entity must take into account in protecting the listed river segment.

Compliance and Documentation

The environmental review record should contain **one** of the following:

- Evidence the proposed action is not within proximity to a designated Wild, Scenic, or Recreational River
- Documentation that contact was made with the Federal (or state) agency that has administrative responsibility for management of the river and that the proposed action will not affect river designation or is not inconsistent with the management and land use plan for the designated river area

View Wild and Scenic Rivers - Worksheet (/resources/documents/Wild-and-Scenic-Rivers-Worksheet.docx).

View Wild and Scenic Rivers - Partner Worksheet (/resources/documents/Wild-Scenic-Rivers-Partner-Worksheet.docx).

Related Resources

Wild and Scenic Rivers Act: Section 7 (https://www.rivers.gov/documents/section-7.pdf)
A technical report that includes appendices on how to document evaluation of impacts in the environmental review.

Protecting Our Natural Resources Webinar (/trainings/courses/protecting-our-natural-resources-complying-with-the-wild-and-scenic-rivers-act-farmland-protection-policy-act-and-endangered-species-act-webinar/)
This webinar, held September 5, 2012, provides an overview of three laws concerning the protection of natural resources: the Wild and Scenic Rivers Act, Farmland Protection Policy Act, and Endangered Species Act. This webinar outlines the compliance steps in a way that has been tailored towards HUD projects for all three laws.

Statute

16 U.S.C. 1271 et seq. (http://www.gpo.gov/fdsys/search/pagedetails.action?collectionCode=USCODE&searchPath=Title+16%2FCHAPTER+28&granuleId=USCODE-2012-title16-chap28-sec1271&packageId=USCODE-2012-title16&oldPath=Title+16%2FChapter+28%2FSec.+1271&fromPageDetails=true&collapse=true&ycord=3300)

Resources

WISER: Wild and Scenic Rivers Online Module (https://www.hudexchange.info/trainings/wiser/)

National Wild and Scenic Rivers System Lists

National Wild and Scenic Rivers System Website (http://www.rivers.gov/rivers/)

Designated Rivers (http://www.rivers.gov/map.php)

Nationwide Rivers Inventory (NRI) (http://www.nps.gov/ncrc/programs/rtca/nri/)

View Additional Resources

Federal Related Laws and Authorities

Air Quality (/environmental-review/air-quality)

Airport Hazards (/environmental-review/airport-hazards)

Coastal Barrier Resources (/environmental-review/coastal-barrier-resources)

Coastal Zone Management (/environmental-review/coastal-zone-management)

Environmental Justice (/environmental-review/environmental-justice)

Endangered Species (/environmental-review/endangered-species)

Explosive and Flammable Facilities (/environmental-review/explosive-and-flammable-facilities)

Farmlands Protection (/environmental-review/farmlands-protection)

Flood Insurance (/environmental-review/flood-insurance)

Floodplain Management (/environmental-review/floodplain-management)

Historic Preservation (/environmental-review/historic-preservation)

Noise Abatement and Control (/environmental-review/noise-abatement-and-control)

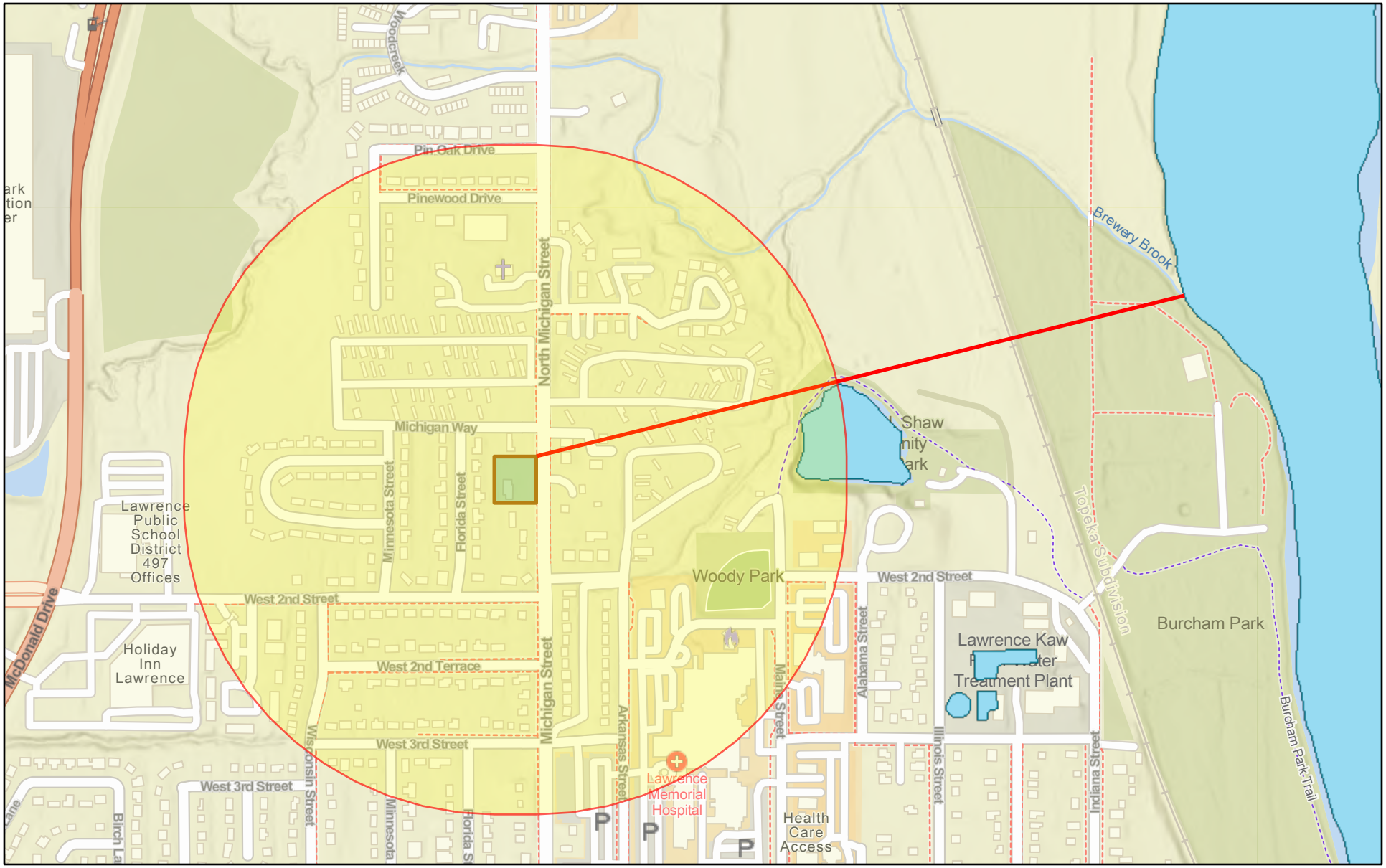
Site Contamination (/environmental-review/site-contamination)

Sole Source Aquifers (/environmental-review/sole-source-aquifers)

Wetlands Protection (/environmental-review/wetlands-protection)

Wild and Scenic Rivers (/environmental-review/wild-and-scenic-rivers)

105 Michigan St distance to the Kansas River - 0.54 miles



January 28, 2022

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Project Buffer = 0.25 miles

105 Michigan St

105 Michigan St distance to Kansas River

Water Bodies

Environmental Justice

General requirements	Legislation	Regulation
Determine if the project creates adverse environmental impacts upon a low-income or minority community. If it does, engage the community in meaningful participation about mitigating the impacts or move the project.	Executive Order 12898	

HUD strongly encourages starting the Environmental Justice analysis only after all other laws and authorities, including Environmental Assessment factors if necessary, have been completed.

1. Were any adverse environmental impacts identified in any other compliance review portion of this project's total environmental review?

Yes

✓ No

Based on the response, the review is in compliance with this section.

Screen Summary

Compliance Determination

No adverse environmental impacts were identified in the project's total environmental review. The project is in compliance with Executive Order 12898.

Supporting documentation

Are formal compliance steps or mitigation required?

Yes

✓ No

U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.gov
espanol.hud.gov

Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58

Project Information

Project Name: 105-Michigan-Street

HEROS Number: 900000010234467

Project Location: 105 Michigan St, Lawrence, KS 66044

Additional Location Information:
N/A

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]:
Tenants To Homeowners will purchase this 34,000 sq ft property (currently zoned Rs7) with the intention of re-platting it into three 11,000+sq ft lots. Each of these lots would make use of the Affordable Housing Density Bonus. In total, six homes with a total of 15 bedrooms would be developed at this site. One lot is vacant and the other lot has been previously developed.

Funding Information

Grant Number	HUD Program	Program Name
M-21MC-20-0205	Community Planning and Development (CPD)	HOME Program

Estimated Total HUD Funded Amount: $100,000.00

Estimated Total Project Cost [24 CFR 58.2 (a) (5)]: $1,210,000.00

Mitigation Measures and Conditions [CFR 1505.2(c)]:
Summarized below are all mitigation measures adopted by the Responsible Entity to reduce, avoid or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure or Condition
Permits, reviews, and approvals	The project will go through development review with

	the City of Lawrence. Building permits must be obtained before the project can begin.

Project Mitigation Plan
N/A

Determination:

☒	Finding of No Significant Impact [24 CFR 58.40(g)(1); 40 CFR 1508.13] The project will not result in a significant impact on the quality of human environment
☐	Finding of Significant Impact

Preparer Signature: Danielle Walters **Date:** *June 23, 2022*

Name / Title/ Organization: Danielle Walters / / LAWRENCE

Certifying Officer Signature: _____ **Date:** 7/7/22

Name/ Title: Craig S. Owens, City Manager

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environment Review Record (ERR) for the activity / project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).