

**FINAL
ENVIRONMENTAL ASSESSMENT**

**THE CITY OF EL DORADO
WIND ENERGY PROJECT**

EL DORADO, BUTLER COUNTY, KANSAS

**U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
Golden Field Office**



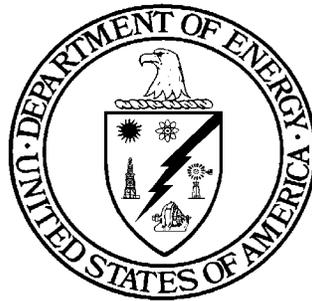
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COVER SHEET

RESPONSIBLE AGENCY: U.S. Department of Energy (DOE)

TITLE: *Final Environmental Assessment for the City of El Dorado Wind Energy Project, El Dorado, Butler County, Kansas* (DOE/EA 1833).

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ABSTRACT: DOE has provided an Energy Efficiency and Conservation Development Block Grant (EECBG) award to the State of Kansas and proposes to authorize the State to expend \$250,000 of this Federal grant to assist with financing of the design, permitting and construction of the City of El Dorado Wind Energy Project (the proposed project), a proposed 1.0-megawatt wind turbine to be located immediately west of the El Dorado Wetlands and Water Reclamation facility located at 105 Wetlands Drive in El Dorado, Butler County, Kansas. DOE has authorized the Kansas Corporation Commission (KCC) to use a percentage of Federal funding for preliminary activities, which includes preparation of this EA, analyses and agency consultation. These activities do not significantly impact the environment nor represent an irreversible or ir retrievable commitment by DOE in advance of the conclusion of the EA. The proposed site is in a rural area, approximately 1.5 miles south of downtown El Dorado and adjacent to U.S. Route 77. The City has selected the Nordic Windpower N1000 wind turbine, which would provide approximately 2,430 megawatt-hours of renewable energy annually to the Reclamation Facility and result in a net decrease in emissions of approximately 2,223 short tons of carbon dioxide equivalents for each year of operation. The wind energy produced would meet approximately 98 percent of the Facility's average annual electricity needs.

This EA analyzes the potential environmental impacts of the proposed construction, operation, and eventual decommissioning of the proposed project and the alternative of not implementing this project (the No-Action Alternative).

PUBLIC INVOLVEMENT: The public was provided with an opportunity to comment on the draft EA via email or written correspondence. Details regarding the comments and responses are included in Appendix E.

AVAILABILITY: This EA is available on the DOE Golden Field Office Public Reading Room website, (http://www.eere.energy.gov/golden/reading_room.aspx) and on the DOE NEPA Website (http://nepa.energy.gov/DOE_NEPA_documents.htm).

ACRONYMS AND ABBREVIATIONS

APE	area of potential effect
ARRA	<i>American Recovery and Reinvestment Act of 2009</i>
BMP	best management practice
CFR	<i>Code of Federal Regulations</i>
dBa	decibel on an A-weighted scale, used to approximate the human ear's response to sound
DNL	Day Night Average Sound Level
DOE	U.S. Department of Energy
EA	Environmental Assessment
EECBG	Energy Efficiency and Conservation Block Grant
EMF	electromagnetic fields
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FR	<i>Federal Register</i>
GHG	greenhouse gas
IBA	Important Bird Area
KAR	Kansas Administrative Regulations
KCC	Kansas Corporation Commission
KDHE	Kansas Department of Health and Environment
KDWP	Kansas Department of Wildlife and Parks
KSHS	Kansas Historical Society
MBTA	<i>Migratory Bird Treaty Act</i>
NAGPRA	<i>Native American Graves Protection and Repatriation Act</i>
NEPA	<i>National Environmental Policy Act</i>
NHPA	<i>National Historic Preservation Act</i>
NOA	Notice of Availability
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTIA	National Telecommunication and Information Administration
SHPO	State Historic Preservation Office (Officer)
SWPPP	Stormwater Pollution Prevention Plan
US-77	U.S. Highway 77
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service
WSU	Wichita State University

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1. INTRODUCTION

1.1 National Environmental Policy Act and Related Procedures

The *National Environmental Policy Act* (42 U.S.C. 4321 *et seq.*; NEPA), the Council on Environmental Quality NEPA regulations (40 CFR Parts 1500 to 1508), and the U.S. Department of Energy's (DOE's) NEPA implementing regulations (10 CFR Part 1021) require that DOE consider the potential environmental impacts of a proposed action before making a decision about Federal actions that could have environmental effects. This requirement applies to decisions about whether to provide different types of financial assistance to states and private entities.

In compliance with these regulations and DOE's procedures, this EA:

- Examines the potential environmental impacts of the Proposed Action and the No-Action Alternative;
- Identifies unavoidable adverse environmental impacts of the Proposed Action;
- Describes the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity; and
- Characterizes any irreversible and irretrievable commitments of resources that would be involved should DOE decide to implement its Proposed Action.

DOE must meet these requirements before it can make a final decision to proceed with any proposed Federal action that could cause adverse impacts to human health or the environment. This EA provides DOE and other decision makers with the information needed to make an informed decision about the construction and operation of the proposed wind turbine. The EA evaluates the potential individual and cumulative impacts of the proposed project. For purposes of comparison, this EA also evaluates the impacts that could occur if DOE did not provide funding (the No-Action Alternative), under which DOE assumes that the City of El Dorado would not proceed with the project. The EA does not analyze other action alternatives, such as alternative technologies or alternative project locations.

The proposed location of the El Dorado Wind Energy Project is within the 100-year floodplain and the regulatory floodway of the Walnut River (FEMA 2009). Pursuant to Executive Order 11988, *Floodplain Management*, each Federal agency is required, when conducting activities in a floodplain, to take actions to reduce the risk of flood damage; minimize the impacts of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains. Regulations issued by DOE that implement this Executive Order are contained in 10 CFR Part 1022, "Compliance with Floodplain and Wetland Environmental Review Requirements." This regulation requires DOE to prepare a floodplain assessment for any proposed action in the base floodplain, which is the 100-year floodplain (that is, a floodplain with a 1.0 percent chance of flooding in any given year). At 10 CFR 1022.2(b), the regulation also states that whenever possible, DOE shall accommodate requirements of the Executive Order through the applicable NEPA procedures. Accordingly, it is DOE's intent that this EA meet the requirements for a floodplain assessment as described in Section 3.2.2.12.2 as well as meeting requirements under NEPA.

1.2 Background

The City of El Dorado proposes to construct, operate, and eventually decommission a single 1.0-megawatt wind turbine at the City of El Dorado Wetlands and Water Reclamation Facility, located at 105 Wetlands Drive in El Dorado, Kansas. The current estimated project cost is \$2.2 million. DOE is proposing to authorize the Kansas Corporation Commission (KCC) to expend Federal funding from the Kansas State Energy Office to design, permit, and construct a wind turbine project that would enable the City of El Dorado to reduce electrical demands from the existing electrical provider and lower its carbon footprint. Once installed, the turbine is anticipated to produce 2,430 megawatt-hours of energy annually.

The Kansas State Energy Office grant to the City of El Dorado came from money that KCC received from the DOE's Energy Efficiency and Conservation Block Grant (EECBG) Program. States can use their EECBG funds for a wide variety of activities related to energy efficiency (see 42 U.S.C. 6321 *et seq.* and 10 CFR Part 420). In the *American Recovery and Reinvestment Act* of 2009 (Pub. L. 111-5, 123 Stat. 115; ARRA), Congress appropriated \$3.2 billion to DOE's EECBG Program, and Kansas received \$9,593,500 pursuant to a statutory formula for distributing these funds. Kansas informed DOE that it proposes to provide \$250,000 of its EECBG funds to the El Dorado Wind Energy Project. The potential use of Federal EECBG funds to assist in financing this project constitutes a Federal action subject to review under NEPA.

1.3 Purpose and Need

1.3.1 DOE's Purpose and Need

DOE's purpose and need is to ensure that EECBG funds are used for activities that meet Congress' statutory aims to improve energy efficiency, reduce dependence on imported oil, decrease energy consumption, or promote renewable energy. Through formula and competitive grants, the EECBG Program empowers local communities to make strategic investments to meet the nation's long-term goals for energy independence and leadership on climate change. Providing funding to the KCC's State Energy Office would partially satisfy the need of the EECBG Program to assist U.S. cities, counties, states, territories, and American Indian tribes to develop, promote, implement, and manage energy efficiency and conservation projects and programs designed to:

- Reduce fossil fuel emissions;
- Reduce the total energy use of the eligible entities; and
- Improve energy efficiency in the transportation, building, and other appropriate sectors.

The EECBG Program received appropriations through the ARRA. The ARRA enacted legislation to create jobs, restore economic growth, and strengthen America's middle class through measures that modernize the nation's infrastructure, enhance America's energy independence, expand educational opportunities, preserve and improve affordable health care, provide tax relief, and protect those in greatest need. Provision of funds under EECBG would partially satisfy the needs identified under ARRA.

1.3.2 Kansas' Purpose and Need

Kansas's purpose and need is to grow the economy of the state by connecting companies and communities to financial and technical resources to deploy renewable energy technologies, and to support the goals of the EECBG and Recovery Act to reduce energy costs, reduce reliance on imported energy, reduce the impacts of energy production and energy use on the environment, and to preserve and create jobs.

1.3.3 Kansas' EECBG Project Selection Process

The KCC is using its ARRA funding for programs to increase the energy efficiency of governmental and educational entities while promoting deployment of clean energy projects that will help improve cost-effectiveness and resource conservation. Kansas developed three grant programs to attain these objectives:

- Public Projects
- Renewable Energy Incentives
- Energy Managers

The KCC advertised all the programs on its website with application information. The Public Projects Program is a matching grant program in which KCC grants 60 percent of the project cost up to \$150,000 for building retrofits. The Renewable Energy Incentives Program provides a 25-percent cash grant based on the total cost of a proposed renewable energy generation project, with a \$250,000 maximum grant per project. The Energy Managers Program provides funding for a two-year stipend (up to \$65,000 per year), for hiring an energy manager, plus \$20,000 annually for two years for materials and supplies. The EECBG Program requires that funds must be fully obligated by April 8, 2011, and projects must be fully operational by March 2012.

The El Dorado Wind Energy Project proposal was submitted under the Renewable Energy Incentives Program. The project would be implemented at the El Dorado Wetlands and Water Reclamation Facility.

1.4 Public and Agency Involvement

1.4.1 Public Scoping

In accordance with applicable regulations and policies, DOE sent scoping notices to stakeholders, including local, State, tribal, and Federal agencies; organizations; and interested parties, to solicit comments. A copy of the Notice of Scoping was also posted on the City of El Dorado website (<http://www.eldoks.com>) to solicit comments on the scope of the EA from the general public. DOE sent the notices via postcard on September 13, 2010, directing stakeholders to DOE's Golden Field Office's Public Reading Room website (http://www.eere.energy.gov/golden/reading_room.aspx), where DOE had published the scoping letter for review. The scoping letter described DOE's Proposed Action and requested assistance in identifying potential issues that should be evaluated in the EA. A copy of the scoping notice, the scoping letter, and the stakeholder distribution list is included in Appendix D-1. The public scoping comment period closed on September 27, 2010.

In response to the scoping letter, DOE received two comments from federal agencies, one from the Federal Aviation Administration (FAA) and one from the U.S. Environmental Protection Agency (EPA) (Appendix D-1). The comments received from FAA were advisory in nature, and noted that applicable permits must be filed with the FAA. The EPA had no specific comments regarding the project; however, it did provide suggestions regarding developing the project's purpose and need. With respect to tribal consultations, DOE received four responses. These comments are addressed in Section 3.2.2.4 of this EA. Responses can be found in Appendix C.

1.4.2 Public and Agency Coordination

The City of El Dorado and/or DOE have contacted the following agencies and organizations (see Section 9):

- Federal Aviation Administration
- U.S. Army Corps of Engineers
- U.S. Department of Agriculture
- U.S. Department of Commerce – National Telecommunications and Information Administration (NTIA)
- U.S. Fish and Wildlife Service (USFWS)
- Native American tribes
- Kansas Department of Health and Environment (KDHE)
- Kansas Department of Transportation
- Kansas Department of Wildlife and Parks (KDWP)
- Kansas Natural Resources Conservation Service (NRCS)
- Kansas State Historical Society (KSHS) – State Historic Preservation Office (SHPO)
- City of El Dorado Planning and Zoning Department

In an effort to inform the public about this project outside of the EA process, the Director of Public Utilities for the City of El Dorado, Mr. Kurt Bookout, presented an overview of the proposed Wind Energy Project during the El Dorado City Council meeting on October 6, 2010. A copy of the meeting minutes is provided in Appendix D-1.

Pursuant to Section 7 of the *Endangered Species Act* (7 U.S.C. 136; 16 U.S.C. 1531 *et seq.*) and Section 106 of the *National Historic Preservation Act* (16 U.S.C. 470 *et seq.*, NHPA; 36 CFR Part 800), DOE provided letters to the USFWS, KSHS, and representatives of seven tribes (listed in Appendix D-1) describing the proposed project and requesting information regarding Federally listed species and known historic or cultural resources in the area, respectively, that might be affected by the proposed project. Additional information regarding these consultations is provided in Sections 3.2.2.4 and 3.2.2.6 of this EA. Correspondence can be found in Appendix C.

1.4.3 Draft Environmental Assessment

The draft EA was available for public comment for 15 days beginning with the publication of a Notice of Availability (NOA) in the *Wichita Eagle* on December 14, 2010, and the *El Dorado Times* on December 15, 2010. The NOA was sent to potential stakeholders and interested parties (i.e., Federal, State, Tribal and local agencies; listed in Appendix D-1). The procedures outlined the public's opportunity to comment on the potential impacts to social, environmental, and economic factors from the proposed project.

The draft EA was also posted on the DOE Golden Field Office Reading Room website (http://www.eere.energy.gov/golden/reading_room.aspx), and on the DOE NEPA Website (<http://nepa.energy.gov>) beginning December 16, 2010, and allowing the opportunity to comment online via email or via written correspondence to the postal address provided therein. At the conclusion of the 15-day comment period (December 31, 2010), DOE analyzed all submitted comments and questions and considered each issue for inclusion in the final EA.

DOE received four comments on the draft EA which are summarized below.

- The USFWS commented that the draft EA adequately addressed the concerns expressed by the regional office during earlier coordination and scoping, and added that the commitment to implement the measures and Best Management Practices cited in the EA during site development and construction, gave further assurance that the project will have minimal impact on fish and wildlife resources.

- The Kansas Department of Agriculture (KDA) provided two comment letters. Both letters noted the project's location within the 100-year floodplain and floodway of the Walnut River, highlighted potential permitting requirements (city/county permit, no-rise certification, Conditional Letter of Map Revision, KDA Water Structures Section permit), and included contact information.
- The Kansas Water Office stated, "We have no comments based on our review and do not oppose approval of the project."

Based on the review of comments received, revisions to the draft EA to address comments were not warranted. All comments received, and the corresponding DOE responses, were incorporated into the EA appendices (see Public Comments and Responses in Appendix E).

2. PROPOSED ACTION AND ALTERNATIVES

2.1 DOE's Proposed Action

DOE is proposing to authorize the expenditure of Federal funding to design, permit, and construct the El Dorado Wind Energy Project (proposed project), a proposed 1.0-megawatt wind turbine to be located west of the City of El Dorado's Wetlands and Water Reclamation Facility in El Dorado, Butler County, Kansas.

DOE has authorized KCC to use a percentage of its Federal funding for preliminary activities, including the preparation of this EA and associated analyses. Such activities are associated with the proposed project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment by the DOE in advance of the conclusion of the EA for the proposed project.

2.2 Kansas' Proposed Project

The KCC selected the City of El Dorado for a \$250,000 grant based on the following criteria: project readiness; match, financing, and cost effectiveness; economic impact for Kansas; project characteristics and potential for innovation; and its ability to: (1) provide emission-free energy, and (2) create jobs during the construction of the project. KCC is the recipient of Federal funding while El Dorado is the sub-recipient of this funding.

The project would include the design, permitting, construction, operation, and eventual decommissioning of a single 1.0-megawatt wind turbine along with an approximate 400-foot (122-meter) permanent gravel access road and 700 feet (213 meters) of underground electrical transmission line. The underground electrical transmission line and the access road would extend to the east from the proposed turbine toward the El Dorado Wetlands and Water Reclamation Facility. Approximately 2,000 feet (610 meters) of electrical transmission line in existing conduit that connects the Wetlands and Water Reclamation Facility to the electrical service grid near U.S. Route 77 (US-77) might need replacing or extending. The proposed wind turbine would enable the City of El Dorado to reduce electrical demands from the existing source and reduce its carbon footprint.

2.2.1 Project Location

The proposed wind turbine would be located at the City of El Dorado's Wetlands and Water Reclamation Facility in El Dorado, Kansas, approximately 1.5 miles (2.4 kilometers) south of downtown El Dorado and adjacent to US-77. The physical address of the El Dorado Wetlands and Water Reclamation Facility is 105 Wetlands Drive in El Dorado, Kansas (Appendix A – Figures 1 through 4).

The City of El Dorado specifically chose the proposed project's location because it is previously disturbed (cropped). The ground-disturbing activities for this project would be confined to less than one acre (0.4 hectare) portion of property that is currently being leased for crop production. The approximate center point of the turbine is at Latitude/Longitude 37°47'48.46" N, 96°51'6.45"W (North American Datum, 1983). A photographic log of the project area is included in Appendix B-1.

2.2.2 Construction and Installation

Site construction would include installation of a single wind turbine, foundation systems, underground electrical distribution line, access road and necessary road improvements, and a temporary crane pad. All construction and laydown areas, including electrical distribution, would be on previously disturbed land

owned and maintained by the City of El Dorado and carried out in accordance with all applicable Federal, State, and local requirements.

The turbine model chosen for the proposed project is the two-blade monopole Nordic Windpower N1000. The height of the turbine's hub would be approximately 230 feet (70 meters), with a rotor diameter of 194 feet, (59 meters) and an overall height of approximately 330 feet (101 meters). A data sheet with additional technical specifications for the Nordic Windpower N1000 is included in Appendix D-2.

To adequately distribute the power from the turbine to the Wetlands and Water Reclamation Facility would require electrical distribution lines, underground conduits, transformers, switchgear, and meters. The exact quantity, location, and configuration of these components would be specified during the final design phase of the project. It is estimated that 700 feet (213 meters) of underground distribution line would be required to connect the turbine to the Facility. Further, Approximately 2,000 feet (610 meters) of electrical transmission line in existing conduit might need replacing or extending to connect the Facility to the electrical service grid at US-77.

During construction of the proposed turbine, the City would locate a crane pad, estimated to be 60 feet (18.3 meters) by 30 feet (9.1 meters), approximately 65 feet (20 meters) away from the turbine's base. The City would also construct an approximately 400-foot (122-meter)-long permanent gravel access road between the western edge of the Facility to the proposed turbine location (Appendix A – Figure 3). Warning signs indicating restricted access and high voltage areas would surround the turbine foundation.

The City would determine the foundation type and design after a geotechnical investigation had been performed. The investigation would evaluate the quality of soils and depth to rock at the proposed turbine location. Due to the site being in the floodplain of the Walnut River, it is possible that weak soil quality (or compressible soil layers) exist and that some type of subgrade modifications would be needed if a spread footing type foundation is used. While the most common type of foundation is a spread footing, the City could use the alternative of a deep foundation, in which driven piles or drilled shafts are used.

The City anticipates short-term ground surface disturbance activities of less than one acre (0.4 hectare) of land during the preparation of the tower facilities, construction of the access road, and underground electrical distribution trench. Construction would be performed in accordance with an approved Stormwater Pollution Prevention Plan (SWPPP) and in compliance with other applicable requirements. Construction activities for wind turbine foundations, tower erection, turbine nacelle placement, and blade installation are contingent on temperature and weather conditions. Turbine nacelle and blade installations would occur during calm wind periods. Foundations would not be installed during cold winter months. The final construction timeline is dependent upon these and similar factors.

The City estimates that the wind turbine installation, including site preparation, erection, overall systems tie-in and start-up, would take approximately 12 months, during which construction activities would last for approximately four months: two months at the beginning of the 12-month phase for excavation and foundation work and two months at the end of the 12-month phase for electrical work, tower erection, turbine and blade installation, and startup. The following is an approximate breakdown of the work activities:

- Excavation (2 weeks)
- Foundation and reinforcing work (7 weeks)
- Electrical distribution, including directional boring for underground conduit, in-plant conduit installation, and switchgear installation at existing switchgear room (11 weeks)
- Tower erection (1 week)
- Turbine nacelle and blade installation (2 weeks)

- Electrical tie-in and interconnection (2 weeks)
- Turbine and system commissioning (2 weeks)
- Site cleanup and restoration (1 week)

This estimated timeline may be extended or compressed based on additional information obtained during the final design phase of the project.

2.2.3 Operations and Maintenance

The City of El Dorado would operate and maintain the Wind Energy Project according to standard industry procedures and requirements specifically recommended by the turbine's manufacturer, Nordic Windpower. The City of El Dorado would ensure that all workers tasked with operating and maintaining the turbine are properly trained for turbine maintenance and safety. Routine maintenance of the turbine would be necessary to maximize performance and identify potential problems or maintenance issues. The turbine would be remotely monitored to ensure operations are proceeding efficiently. Any problems would be reported to operations and maintenance personnel, who would perform both routine maintenance and most major repairs. Most servicing would be performed up-tower, without using a crane to remove the turbine from the tower. In addition, personnel would regularly inspect and maintain all access roads and the turbine pad to minimize erosion.

2.2.4 Decommissioning

The turbine and other infrastructure are expected to have a useful life of at least 20 years. Retrofitting the turbine with upgrades might allow the turbine to produce energy efficiently for many years after the original useful life. When the project is terminated, the turbine and other infrastructure would be decommissioned and all facilities would be removed to a depth of approximately 3 feet (1 meter) below grade. The soil surface would be restored as close as possible to its original condition by regrading, adding topsoil, and replanting as appropriate. Underground facilities would either be removed or safely secured and left in place. Salvageable items (including fluids) would be sold, reused, or recycled as appropriate; unsalvageable material would be disposed of at authorized and approved disposal sites. The City of El Dorado would perform all decommissioning construction activities in accordance with the manufacturer's guidelines as well as all applicable Federal, State, and local regulations.

2.3 Alternatives

2.3.1 DOE Alternatives

Kansas' ARRA EECBG funds are from a formula grant; the amount is established pursuant to a formula from DOE's EECBG grant procedures at 10 CFR 600.236. Allocation of funds among the states is based on population and other factors. Recipients of these formula grants have broad discretion in how they use these funds.

DOE's alternatives to its Proposed Action relating to Kansas' use of its EECBG funds are limited to: (1) any options KCC is still considering in regard to this project, and (2) prohibiting Kansas and El Dorado from using Federal funding for the proposed project. The second alternative is equivalent to the No-Action Alternative described in Section 2.3.2 of this EA. Kansas and El Dorado have informed DOE that there are no "project-specific" options being considered for the proposed project. Additionally, there are no unresolved conflicts concerning alternative uses of available resources associated with the project site that would suggest the need for other alternatives.

2.3.2 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the State of Kansas, hence El Dorado, to expend EECBG funds for this project. DOE assumes, for purposes of this EA, that the project would not proceed without EECBG funding. Using this assumption allows a comparison between the potential impacts of the project as proposed and the impacts of not proceeding with the project. Without the proposed project, El Dorado operations would continue as otherwise planned, but without the proposed wind turbine. The ability of the State of Kansas to use its EECBG funds for energy efficiency and renewable energy activities would be impaired, as would its ability to create jobs and invest in the nation's infrastructure to further the goals of ARRA.

2.3.3 Alternatives Considered by the City of El Dorado

In order to meet the goals of a reduced carbon footprint and energy cost savings, the City of El Dorado considered the use of other renewable energy sources for power generation. However, the cost of the other technologies considered exceeded the benefits. In April 2010, the City of El Dorado conducted a "Wind Turbine Feasibility Study" (Appendix D-3) that analyzed eleven wind turbine models, two locations at the facility, and three scenarios for the disposition of energy and utility interconnections.

2.3.3.1 Turbine Selection

The City of El Dorado chose the Nordic Windpower N1000 as the preferred model based on the annual energy use of the facility, the annual energy production of the turbines, mechanical systems, safety, turbine controls, and availability.

2.3.3.2 Site Selection

Two alternative locations at the El Dorado Wetlands and Water Reclamation Facility were initially evaluated for the wind turbine (Appendix A – Figure 5). The City of El Dorado considered existing floodplains, wetlands, wildlife, utilities and infrastructure, fall zones, visual receptors, shadow flicker receptors, and potential noise receptors during site selection. Both sites would require similar modifications to utility interconnections, as well as construction of a short gravel access road.

- Alternative 1 – West Location. The west location is approximately 400 feet (122 meters) west of the existing Wetlands and Water Reclamation Facility in an agricultural crop field. The west location is within the 100-year floodplain and regulatory floodway of the Walnut River; as such, the soil likely is of poor quality and the wind tower foundation would require some type of sub grade modifications. This site presents a clear fall zone with sufficient clearance from nearby overhead transmission lines, towers, roadways, existing structures, and existing wetland features. The closest receptor that could be affected by turbine noise, shadow flicker, and visual impacts is approximately 2,200 feet (671 meters) to the northeast.
- Alternative 2 – East Location. The east location is adjacent to US-77 in an open area on the north side of Wetlands Drive near the entrance to the Wetlands and Water Reclamation Facility. The site is bounded by US-77 on the east, the entrance road on the south, and a drainage way (ditch) running along the northern and western sides of the site. A series of constructed wetlands (treatment ponds) are located immediately west of the site. This site is located within the 100-year floodplain but outside of the regulatory floodway of the Walnut River. The fall zone for this site would include the constructed wetlands, Wetlands Drive, and US-77. The closest receptor that could be affected by turbine noise, shadow flicker, and visual impacts is approximately 900 feet (274 meters) to the northwest.

After considering necessary clearance requirements for the turbine tower, impacts on visual and noise receptors, and the potential negative impacts to wildlife that utilize the constructed wetlands, the City of El Dorado dismissed the east location as a potential alternative for the wind turbine tower.

2.3.3.3 Disposition of Energy and Utility Interconnections

Electricity meters are installed to track the flow of energy, and there are several methods to meter customer-owned turbines. The April 2010 feasibility study evaluated three methods including the use of a separate meter, connecting the turbine behind the meter, and net metering. Westar Energy currently supplies electricity to the facility and there would be a number of technical requirements for interconnection. Net metering would most likely provide the most advantageous arrangement for the City of El Dorado. Westar Energy has indicated a willingness to negotiate a net metering arrangement with the City of El Dorado for this project.

2.4 Permits, Approval, and Notifications

Prior to construction, the City of El Dorado would obtain all required Federal, State, and local permits, approvals, and notifications. These permits, approvals, and notifications have been initiated and most would be completed as part of the EA process. However, some permits, including the Oversize/Overweight Vehicle, might be obtained after the EA process is complete. Table 2-1 lists the required permits, approvals, and notifications. Documentation of all agency approvals that have been received is provided in Appendix C of this EA.

Table 2-1. Federal, State, and Local Permits, Approvals, and Notifications

Agency	Permit / Approval / Notification Type
Federal	
FAA	FAA Aeronautical Determination
NTIA	Radio Frequency Transmission Notification
USFWS	Compliance with the <i>Endangered Species Act</i> , the <i>Migratory Bird Treaty Act</i> , and the <i>Bald and Golden Eagle Protection Act</i> .
FEMA	No-Rise Certification (delegated to the City of El Dorado)
State	
KSHS – SHPO	Compliance with the <i>National Historic Preservation Act</i>
KDWP	Concurrence that the proposed action does not pose a substantial risk to State-protected species
Kansas Department of Transportation	Oversize/Overweight Vehicle (to be obtained by the trucking/delivery company)
Local	
City of El Dorado Planning Commission	Special use permit approval – Approved 10/28/10
City of El Dorado City Council	Special use permit approval – Approved 11/22/10
City of El Dorado Board of Zoning Appeals	Height variance – Approved 12/15/10

The project requires a special use permit from the City of El Dorado to allow the construction of a wind power generating system. A City of El Dorado Planning Commission/Board of Zoning Appeals Application was submitted on September 21, 2010 (Appendix C-10). The Planning Commission reviewed the application and approved the special use permit on October 28, 2010, recommending approval by the governing body (City Council) as well. The application was forwarded to the City Council for review on November 15, 2010, and on November 22, 2010 the City Council adopted Ordinance No. G-1112,

approving the special use permit for the proposed turbine (Appendix C-10). On December 15, 2010, the Board of Zoning Appeals considered and approved the City's request for a height variance as the turbine would be taller than the height limitations established for Light Industrial zoning districts (100 feet/30.5 meters). The Board of Zoning Appeals approval can be found in Appendix C-10.

2.5 Project Proponent-Committed Practices

El Dorado has committed to the following measures and procedures to minimize or avoid environmental impacts if the proposed project is carried forward.

2.5.1 Visual Quality

The maximum amount of shadow from the turbine on any residential receptor in the area is anticipated to be less than 1.75 hours annually. Therefore, it is unlikely that any mitigation would be required for receptors. However, if shadow flicker became a legitimate annoyance for a receptor, the City of El Dorado would consider mitigation measures including shadow control equipment, screening trees, or window blinds.

2.5.2 Cultural and Historic Resources

An archaeological study (WSU 2005), determined that encountering archaeological resources during ground-disturbing activities is not likely (see Appendix D-6). If archaeological resources were encountered during construction, ground-disturbing activities would immediately cease, and the KSHS would be contacted for resolution and further instruction regarding additional studies and/or potential avoidance, minimization, or mitigation measures in accordance with the NHPA.

2.5.3 Geology and Soils

The City of El Dorado would use sediment and erosion control best management practices (BMPs) during construction and operation to minimize erosion of soils. BMPs would include, at a minimum, the following: containing excavated material, using silt fences, protecting exposed soil, stabilizing restored material, and revegetating disturbed areas. The project would follow all city, State, and Federal guidelines and requirements.

2.5.4 Biological Resources

During turbine siting, the City of El Dorado considered the guidelines contained within the *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (USFWS 2003). The following measures are part of the proposed project and would be implemented to minimize impacts to avian and bat species:

- Electrical distribution lines would be installed underground.
- Ground lighting would be limited to the immediate vicinity of the turbine tower base and lighting fixtures that reduce the potential to attract songbirds and other bird species migrating at night would be used.
- Lighting for aviation safety would be installed utilizing the minimum number and intensity to comply with FAA requirements and minimize the potential to attract bird, bat, and raptor species.

- The turbine would be a monopole design. Lattice towers, which have become roosting sites for birds at other wind projects, would not be used to support the turbine.
- Ground guy wires would not be used for support of the wind turbine. Guy wires can be a challenge for birds and bats to locate, which makes them difficult to maneuver around them and can lead to injury or death.
- The turbine would be sited away from the constructed wetlands to minimize the risk to wildlife.
- Grass beneath the turbine would be regularly cut to reduce the value of the habitat for wildlife and decrease habitat attractiveness for wildlife species.

The City also reviewed and would incorporate several of the BMPs from the USFWS Wind Turbine Guidelines Advisory Committee's Site Development and Construction BMPs (USFWS 2010c). Discussion of the applicable recommendations and actions are located within the "Direct and Indirect Impacts" sections within Section 3.2.2.6 of this EA.

2.5.5 Human Health and Safety

The construction contractor and facility operator would prepare a health and safety plan per Occupational Safety and Health Administration requirements and Nordic guidelines before starting work. Construction of the proposed Project would comply with all applicable Federal, State, and local requirements. The facility would be posted with signs to restrict access and include high-voltage area warnings.

The turbine blades would be supplied with ice sensors. When ice forms the sensors would engage and the turbine would not be permitted to rotate until the ice has melted. This technology is intended to prevent ice throws. Ice that has accumulated on the blades would fall to the foot of the turbine as it melts. To prevent accident or injury from ice that falls as it melts, the area directly underneath the turbine would be designated a clear zone.

2.5.6 Water Resources

2.5.6.1 Ground and Surface Water

The City of El Dorado would use sediment and erosion control BMPs during construction and operations to minimize impacts to water quality. An SWPPP that specifies the quantity, type, and locations of BMPs would be prepared for the project.

2.5.6.2 Floodplains and Wetlands

The City of El Dorado would obtain a No-Rise Certification to ensure the project would not adversely affect floodplains or regulatory floodways. The floodplain manager for the City of El Dorado indicated that, based on the conceptual information available for the Wind Energy Project at the Wetlands and Water Reclamation Facility, no adverse effects regarding floodplain issues or the issuance of a No-Rise Certification are anticipated (see Appendix C-10).

2.5.7 Air Quality

The City of El Dorado would minimize temporary dust generated during construction and decommissioning to the extent practicable (for example, by keeping gravel on roads and watering dry, unpaved roads).

2.5.8 Utilities and Energy

While impacts to the electromagnetic communication links (i.e., radio, microwave, radar) are not anticipated, should a Federal agency or private entity identify concerns with the proposed project, the City would work directly with the party to address such concerns.

2.5.9 Operations and Maintenance

The City of El Dorado would operate and maintain the proposed project according to standard industry procedures and requirements specifically recommended by the turbine's manufacturer, Nordic Windpower. Personnel would perform routine maintenance and upkeep to maximize performance and ensure the usefulness and longevity of the turbine.

2.5.10 Decommissioning

Upon reaching the end of the turbine's useful life (20 years or longer if retrofitting is performed), the City of El Dorado would decommission or retrofit the turbine per manufacturer guidelines and in accordance with applicable Federal, State, and local standards and regulations.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

This chapter of the EA examines the potential environmental impacts of the proposed project and of the No-Action Alternative for the following potentially affected environmental resource areas: Land Use, Visual Quality, Noise, Cultural and Historic Resources, Geology and Soils, Biological Resources, Human Health and Safety, Transportation, Socioeconomics and Environmental Justice, Air Quality and Climate Change, Utilities and Energy, and Water Resources.

El Dorado selected the Nordic Windpower N1000 wind turbine. Therefore, DOE used specifications for the N1000 (Appendix D-2) for the analyses in this EA. The height of the turbine's hub would be approximately 230 feet (70 meters), with a rotor diameter of 194 feet, (59 meters) and an approximate total height of 330 feet (101 meters) to the blade tip at its highest point. The proposed project would also include:

- Turbine foundation (estimated size of 45 feet (13.7 meters) by 45 feet (13.7 meters));
- Approximately 700 feet (213 meters) of new underground electrical transmission line to connect the turbine to equipment at the Wetlands and Water Reclamation Facility;
- The replacement or extension of approximately 2,000 feet (610 meters) of electrical transmission line in existing underground conduit to connect the Facility to the electrical service grid; and
- Approximately 400 feet (122 meters) of permanent gravel access road for accessing the turbine from the Facility.

3.1 No-Action Alternative

Under the No-Action Alternative, DOE would not authorize the use of Federal funds for the design, construction, and operation of the proposed project; therefore, there would not be any impacts to the resource areas analyzed in this EA. However, without the proposed project, the City of El Dorado would continue purchasing energy from Westar Energy. If the proposed project is not implemented, approximately 98 percent of the Wetlands and Water Reclamation Facility's average annual electrical power that could be provided by the project would continue to be purchased from Westar Energy. Westar Energy currently obtains approximately 3 percent of its electricity from wind power and 8 percent from nuclear, but approximately 89 percent of its electricity is obtained from nonrenewable fossil fuel sources, such as coal and natural gas (Westar Energy 2010). Fossil fuels are therefore the primary electricity source for the Facility. Thus, the carbon dioxide emissions from electricity generation and the cost of electricity to serve the Facility would remain the same under the No-Action alternative and El Dorado would not meet its objective to reduce costs and its carbon footprint.

3.2 Kansas' Proposed Project

3.2.1 CONSIDERATIONS NOT CARRIED FORWARD FOR FURTHER ANALYSIS

Consistent with NEPA implementing regulations and guidance, DOE focuses the analysis in an EA on topics with the greatest potential for significant impacts. For the reasons discussed below, the proposed project is not expected to have any measurable effects on certain resources.

3.2.1.1 Waste Management

The City of El Dorado anticipates solid wastes generated during construction would include equipment packaging materials and construction-related material debris. Solid wastes generated during operation of the turbine would be minimal. Anticipated solid wastes from decommissioning include dismantled equipment and construction-related material debris.

The City of El Dorado does not anticipate that hazardous, regulated nonhazardous, and universal wastes would be generated during construction, operations, or decommissioning. All wastes generated over the life of the proposed project would be handled, collected, transferred, and disposed of in accordance with applicable Federal, State, and local regulations. Used oil (for example, spent gear box oil, hydraulic fluid, and gear grease) is not considered a waste if it is reused and/or recycled. Used oil that would be generated during operation of the proposed project would be handled, collected, transferred, and reused/recycled in accordance with the City's existing recycling program, as well as in accordance with applicable Federal, State, and local regulations.

3.2.1.2 Water Resources – Wild and Scenic Rivers

DOE reviewed the KDHE website (KDHE 2007), the U.S. Department of the Interior's Wild and Scenic Rivers website (DOI 2010a) and the National Park Service's National Rivers Inventory website (DOI 2010b). This review determined that the proposed project site is not located within a waterway, corridor, or drainage area of a stream or river protected under State Regulations [Kansas Administrative Regulations (KAR) 28-16-28b (pp), KAR 28-16-28b (y), K.A.R. 28-16-28d (b)(2)(A)] as an Outstanding National Resource water, Exceptional State Water, Special Aquatic Life Use water, or a waterway included in the National Wild and Scenic River System. There are no designated wild and scenic rivers in Kansas, and the closest designated wild and scenic river is the Mulberry River, located in Arkansas, approximately 250 miles (402 kilometers) southeast of the proposed project location.

3.2.1.3 Intentional Destructive Acts

DOE considers intentional destructive acts (that is, acts of sabotage or terrorism) in all of its EAs and environmental impact statements (DOE 2006). The proposed project would not involve the transport, storage, or use of radioactive, explosive, or toxic materials. The proposed project would not offer any particularly attractive targets of opportunity for terrorists or saboteurs to inflict adverse impacts to human life, health, or safety.

3.2.2 Considerations Carried Forward for Further Analysis

3.2.2.1 Land Use

Land use surrounding the proposed project site is variable with low-density residential, agricultural, commercial, and industrial development (associated with the City of El Dorado) to the north and west, while agricultural cropland/pastureland dominates the landscape south and east of the project site. An aerial photograph of the area is provided in Appendix A - Figure 3. The Walnut River flows through the area in a southwesterly direction and generally serves as a division between urban and rural land use in the area. The proposed project site lies within the floodplain of the Walnut River, and is bounded by US-77 (South Main St.) on the east, and the Walnut River on the west. The area immediately surrounding the proposed turbine location is currently agricultural cropland. The subject property is owned by the City of El Dorado, but there are no parks, recreation areas, conservation areas, or other public lands in the vicinity of the project. The nearest residential structure is approximately 2,200 feet (671 meters) northeast of the proposed wind turbine.

The City of El Dorado originally identified the zoning of the project area as agricultural (Appendix A – Figure 6). On September 21, 2010, the Wetlands and Water Reclamation Facility submitted a special use permit application to the City of El Dorado Planning Commission for the proposed wind turbine (Appendix C-10). The Planning Commission reviewed the application and approved the special use permit on October 28, 2010, recommending approval by the governing body (City Council) as well. The application was forwarded to the City Council for review on November 15, 2010, and on November 22, 2010, the City Council adopted Ordinance No. 1111, rezoning the proposed project area to a Light Industrial District, and Ordinance No. G-1112, approving the special use permit for the proposed turbine (Appendix C-10). On December 15, 2010, the Board of Zoning Appeals approved the City’s request for a height variance as the turbine would be taller than the height limitations established for Light Industrial zoning districts (100 feet/30.5 meters) and is provided in Appendix C-10.

Direct and Indirect Impacts

Implementation of the proposed project would use less than one acre (0.4 hectare) of previously disturbed, agricultural land. The overall use of the general area would continue as limited agricultural production and wastewater treatment plant operations. The area immediately surrounding the proposed tower location would continue to be used for limited agricultural production. The proposed project would only result in minimal direct or indirect impacts and a negligible irretrievable commitment of land or unavoidable adverse impact.

3.2.2.2 Visual Quality

The existing viewshed of the project area is primarily agricultural, although there are existing vertical features in the vicinity (Appendix A – Figure 7). An approximately 150-foot-tall (46 meter-tall) high voltage transmission line tower stands approximately 330 feet (101 meters) southwest of the proposed turbine location. Additional transmission line towers with a similar height and configuration occur approximately every 1,000 feet (304.8 meters) to the northwest and southeast. An oil refining facility is located approximately 0.75 mile (1.2 kilometers) to the west of the facility. This facility has several vertical structures and towers, the tallest being two 298-foot (90.8-meter) flare stacks. The nearest day-to-day viewers of the proposed turbine would be employees and visitors at the Wetlands and Water Reclamation Facility. Other potential viewers of the proposed turbine within a 1-mile (1.6 kilometers) radius include:

- Vehicles on US-77, approximately 0.5 mile (0.8 kilometer) east of the project site;
- Surrounding rural and farm residences; nearest residence located approximately 0.42 mile (0.66 kilometer) northeast of the project site; and
- Residences along Conner Avenue, approximately 0.6 mile (0.96 kilometer) northwest of the project site.

3.2.2.2.1 Visual Simulations

To address potential concerns about the aesthetic impacts of the proposed project, El Dorado commissioned a visual simulation of the proposed turbine from various viewpoints. These viewpoints were chosen with the intent to capture predominantly unobstructed views of the proposed project from multiple directions and key receptor vantage points. Photos were taken from these viewpoints and an image of a wind turbine was rendered into the photos at the proper scale and location. Appendix A – Figure 8 shows where the photographs used for simulations were taken. The visual simulations showing the proposed turbine are included in Appendix B-2.

The following information summarizes the images and the extent to which the turbine would be visible or obstructed.

- **Location A:** Looking west from a residential driveway adjacent to US-77, approximately 2,500 feet (762 meters) east of the turbine. Turbine visible, foundation and tower partially shielded by trees.
- **Location B:** Looking southwest from a residential driveway adjacent to US-77, approximately 2,500 feet (762 meters) northeast of the turbine. Turbine visible, foundation and tower base partially shielded by trees/vegetation.
- **Location C:** Looking southeast from the intersection of SW Terrace and SW Traffic Way, at the entrance to a residential subdivision, approximately 3,400 feet (1,036 meters) northwest of the turbine. Turbine not visible, tower and rotor shielded by trees/vegetation.
- **Location D:** Looking southeast from the former wastewater treatment plant driveway near the railroad tracks, approximately 3,000 feet (914 meters) northwest of the turbine. Turbine visible, foundation and tower partially shielded by trees.
- **Location E:** Looking southwest from the Wetlands and Water Reclamation Facility driveway, approximately 1,400 feet (427 meters) northeast of the turbine. Turbine visible, foundation and tower partially shielded by vegetation.

3.2.2.2 Shadow Flicker

Another potential visual impact regarding wind turbines is shadow flicker. Shadow flicker is defined as alternating changes in light intensity caused by a moving object (such as a rotating rotor blade) casting shadows on another object. Shadow flicker from wind turbines can occur when moving turbine blades pass in front of the sun, creating alternating changes in light intensity or shadows. These flickering shadows can cause an annoyance when cast on nearby “receptors”, such as residences, schools, and hospitals. The spatial relationship between a wind turbine and a receptor, the location of trees, topography, buildings, and other obstacles, and weather characteristics such as wind speed/direction, and cloud cover, are key factors related to shadow-flicker impacts. Shadow flicker becomes much less noticeable at distances beyond 1,000 feet (304.8 meters), except at sunrise and sunset when shadows are long. At distances beyond 3,280 feet (1,000 meters), the changing light intensity is low enough that a person does not perceive the turbine rotor as “chopping” through the sun, but rather as an object with the sun behind it. In addition to the Wetlands and Water Reclamation Facility, there are eight receptors (all single-family residences) within a 3,280-foot (1,000-meter) radius of the proposed turbine location (Appendix A – Figure 9).

For shadow flicker to occur, the sky must be clear, and the turbine must be operating, otherwise no moving shadows are cast. For shadow flicker to occur at the location of a shadow receptor, the turbine rotor must be located in the line of sight from the receptor to the sun. Furthermore, for the shadow flicker to be visible, the change in light intensity must be above the level of perception of the human eye. Shadow flicker intensity decreases with greater distance from the receptor to the turbine, up to a point where the change in light intensity is below what the human eye can distinguish. As distance between the receptor and the turbine increases, the proportion of the sun that is blocked decreases and the shadows become less intense and less discernible. Shadow flicker intensity is also significantly reduced if the plane of the rotor is at an angle other than perpendicular to the line of sight from the receptor to the sun, again because a smaller proportion of the sun is blocked by the passing blades. Ambient lighting conditions also

affect the visibility of shadow flicker. Changing light intensity is more noticeable in a darkened room than outdoors where ambient light levels are higher.

Shadow flicker from wind turbines occurs much more slowly than the light “strobing” associated with seizures. The strobe rates necessary to cause seizures in people with photosensitive epilepsy are 3 to 5 flashes per second (180 to 300 flashes per minute), and large wind turbine blades are not engineered to rotate at such a high rate (AWEA 2009). For example, the Nordic Windpower N1000 is engineered for a rotational speed of up to 23 blade rotations per minute.

El Dorado commissioned a shadow flicker study in October 2010, which includes a detailed analysis of potential shadow-flicker impacts, including maps outlining the areas where shadow flicker could occur (Appendix D-4).

Direct and Indirect Impacts

The proposed project would affect the viewshed in the project area. The turbine would be a dominant vertical feature in the landscape due to its height; however, the visual impact of the wind turbine would be reduced because of other existing vertical elements in the area (e.g., transmission line towers and flare stacks). Installation of the turbine on a landscape that already has vertical features has less of an impact than placing it on a flat landscape with no other vertical development. The visibility of the proposed wind turbine would vary by location due to topography, area development, land use patterns and screening elements such as trees and buildings, as the visual simulations demonstrate. While it is not possible to quantify the visual impact of a wind energy project, visual impacts can be a concern with such projects and generally revolve around aesthetic and shadow flicker.

According to the shadow flicker study (Appendix D-4), shadow flicker would have the potential to impact five receptors (Receptors 4 through 8) in the vicinity of the proposed project, all single-family residences (Appendix A – Figure 9). A map showing the estimated shadow flicker impacts is included in the shadow flicker study. Although not the closest receptor to the turbine, Receptor 4, approximately 0.5 mile (0.8 kilometer) east of the proposed tower location, would have the greatest potential to experience shadow flicker. According to the shadow flicker study, the greatest chance for shadow flicker to occur would be in April, May, August, September, and October with a 1-day maximum potential of 17 minutes (most days would be significantly less) and an annual maximum potential of 1 hour, 42 minutes. Table 3-1 provides the maximum potential time period shadow flicker would be experienced for any potential receptor within a 3,280-foot (1,000-meter) radius of the proposed turbine location, as well each receptor’s distance from the proposed location.

Table 3-1. Shadow Flicker Summary

Map ID	Maximum Potential Shadow Hours Anticipated per Year ^a	Maximum Potential Shadow Hours per Day ^a	Structure Use	Distance to Turbine (meters)
1	0:00	0:00	Residential	675
2	0:00	0:00	Residential	828
3	0:00	0:00	Residential	982
4	1:42	0:17	Residential	780
5	1:15	0:13	Residential	848
6	0:44	0:09	Residential	968
7	0:56	0:10	Residential	970
8	1:21	0:15	Residential	882

a. Hours based on topography only.

In general, DOE anticipates minimal adverse visual or shadow-flicker impacts to nearby residences as a result of the proposed project. In the unlikely event that shadow-flicker impacts become an annoyance to nearby receptors, the City of El Dorado would discuss mitigation measures with the affected receptor(s), including planting trees or purchasing window blinds.

The Wetlands and Water Reclamation Facility is located approximately 500 feet (152 meters) west of the proposed wind turbine location and would have the maximum potential to experience between 30 and 40 hours of shadow flicker per year. However, due to the location of the facility, shadow flicker would occur in the evening hours after the limited number of employees had left for the day.

The shadow flicker study also determined some areas of US-77, a total length of approximately 3,000 feet (914 meters), would experience shadow flicker. The majority of the length of the roadway would experience less than 2 hours of shadow flicker per year. There are approximately 4,485 hours of daylight per year at 37 degrees latitude; therefore, 2 hours of shadow flicker equates to no impacts for more than 99 percent of the daylight hours in a year. The brief experience would be comparable to driving late or early in the day while sunlight flickers through nearby trees, vegetation, and other tall structures, which are conditions experienced often by most drivers. DOE, therefore, anticipates negligible adverse impacts from shadow flicker for roadway travelers.

3.2.2.3 Noise

Sound is a result of fluctuating air pressure. The standard unit for measuring sound pressure levels is the decibel. A decibel is a unit that describes the amplitude (or difference between extremes) of sound, equal to 20 times the logarithm to the base 10 of the ratio of the measured pressure to the reference pressure, which is 20 micropascals. Typically, environmental and occupational sound pressure levels are measured in decibels on an A-weighted scale (dBA). The A-weighted scale de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear [i.e., using the A-weighting filter adjusts certain frequency ranges (those that humans detect poorly)] (Colby et al. 2009). On average, each A-weighted sound level increase of 10 decibels corresponds to an approximate doubling of subjective loudness.

Noise is any unwanted, undesirable sound. It has the potential to interfere with communication, damage hearing, and, in most cases, is viewed as an annoyance. Noise can occur in different volumes and pitches depending on the type of source and the distance from the receptor. It is important to consider the amount of noise that would be created during both the construction and operations phases of a project to avoid disturbing people working or living in the surrounding areas.

The EPA identifies noise levels necessary to protect public health and welfare against hearing loss, annoyance, and activity interference in its document, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety* (EPA 1974). These noise levels are in terms of “24-hour exposure” levels or an average of acoustic energy over periods of time such as 8 hours or 24 hours, and over long periods of time such as years. A cumulative 24-hour measure of noise accounts for the moment-to-moment fluctuations in A-weighted decibel levels because it combines all sound sources during 24 hours. For example, occasional higher noise levels would be consistent with a 24-hour energy average of 70 dBA, as long as a sufficient amount of relative quiet is experienced for the remaining period of time.

A 24-hour exposure level of 70 dBA is indicated by EPA as the level of environmental noise at which any measurable hearing loss over a lifetime may be prevented. Levels of 55 dBA outdoors and 45 dBA indoors are defined as preventing activity interference and annoyance to human receptors. Spoken conversation and other daily activities, such as sleeping, working, and recreation occur at these levels. In

noise-sensitive areas such as where people sleep, EPA modified these latter criteria by making them Day Night Average Sound Level (DNL) values. The DNL values represent energy averages over a 24-hour period, but a 10-decibel penalty is added to sounds that occur during the 9 hours between 10 p.m. and 7 a.m. Accordingly, in residential areas, for example, EPA’s guidelines for sound levels to avoid activity interference and annoyance are DNL levels of 55 dBA outdoors and 45 dBA indoors. These levels of noise are those at which spoken conversation and other daily activities such as sleeping, working and recreation, can readily occur. Table 3-2 shows common outdoor and indoor sound sources and typical associated sound levels. It is always important to list the distance to the source as well as the level.

Table 3-2. Typical Sound Pressure Levels Measured in the Environment and Industry

Noise Source At a Given Distance	A-Weighted Sound Level in Decibels	Qualitative Description
Carrier deck jet operation	140	
	130	Pain threshold
Jet takeoff (200 feet)	120	
Auto horn (3 feet)	110	Maximum vocal effort
Jet takeoff (1000 feet)	100	
Shout (0.5 feet)		
N.Y. subway station	90	Very annoying
Heavy truck (50 feet)		Hearing damage (8-hour, continuous exposure)
Pneumatic drill (50 feet)	80	Annoying
Freight train (50 feet)	70 to 80	
Freeway traffic (50 feet)		
	70	Intrusive (Telephone use difficult)
Air conditioning unit (20 feet)	60	
Light auto traffic (50 feet)	50	Quiet
Living room	40	
Bedroom		
Library	30	Very quiet
Soft whisper (5 feet)		
Broadcasting/Recording studio	20	
	10	Just audible

Adapted from Table E, "Assessing and Mitigating Noise Impacts", NY DEC, February 2001.

Source: Colby et al. 2009.

In 1981, the Federal government concluded that noise issues were best handled at the state or local government level. As a result, the EPA phased out Federal oversight of noise issues to transfer the primary responsibility of regulating noise to State and local governments. The EPA has an existing design goal of a DNL less than or equal to 65 dBA and a future design goal DNL of 55 dBA for exterior sound levels (EPA 1977). While only the local noise regulations are legally enforceable, the EPA guidelines and design goals are useful tools for assessing a project’s noise impacts.

The City of Eldorado does not have noise criteria incorporated in its zoning regulations. For reference purposes, this EA reviewed the noise statutes for the neighboring City of Wichita (Ordinance No. 47-

030), which has similar residential areas, and would likely reflect similar noise statutes if El Dorado were to implement statutes in the future. Most receptors within the project area are located outside the city limits of El Dorado, in Butler County. DOE, therefore, also reviewed the noise statutes for Butler County (Resolution #548). These statutes define the maximum allowable noise levels at any point outside the noise generator’s property, and are based on the land use of the property where the measurement is taken. Measurements at any receptor must be below the listed levels for the receptor’s land use category to be in compliance with the statutes.

The most stringent requirements in Wichita are for areas zoned residential, where noise levels may not exceed 50 dBA from 10 p.m. to 8 a.m. and 55 dBA from 8 a.m. to 10 p.m. Table 3-3 lists the noise level limits for zoned areas in Wichita.

Table 3-3. City of Wichita Noise Zoning Levels (in A-weighted decibels)

Zone	8 a.m. to 10 p.m.	10 p.m. to 8 a.m.
Residential	55	50
Commercial	60	55
Light Industrial	70	65
Industrial	80	75

The most stringent requirements in Butler County are for areas zoned agricultural, residential, or recreational. Noise levels in these areas may not exceed 50 dBA from 10 p.m. to 7 a.m. and 55 dBA from 7 a.m. to 10 p.m. Table 3-4 lists the noise level limits for zoned areas in Butler County.

Table 3-4. Butler County Noise Zoning Levels (in A-weighted decibels)

Zone	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Agricultural, Residential, Recreational	55	50
Business and Commercial	65	60
Light Industrial	70	70
Heavy Industrial	80	80

The proposed turbine for this project is the Nordic Windpower N1000. The N1000 features a two-blade rotor design in an upwind orientation and is ground mounted with a welded steel monopole. According to the manufacturer, it has a noise power level of less than 104 dBA at wind speeds of 17.9 miles per hour (8 m/s). The data sheet with additional technical specifications for the Nordic N1000 is included in Appendix D-2 of this EA.

The proposed wind turbine location is at the edge of the developed area of the city of El Dorado. The proposed project site is adjacent to the City of Eldorado’s Wetlands and Water Reclamation Facility and to the west of US-77, which runs north into the City of El Dorado. US-77 is a four-lane, divided highway and narrows to a four-lane, undivided highway just north of the Facility as it enters the city of El Dorado. A double railroad line lies approximately 0.5 mile (0.8 kilometer) northwest of the proposed site, and runs generally from southwest to northeast. The El Dorado Municipal Airport is approximately 2 miles (3.2 kilometers) southeast of the proposed project site. In addition to the workers at the Wetlands and Water Reclamation Facility, there are eight potential noise receptors (all single-family residences) located within a 3,280-foot (1,000-meter) radius of the proposed project site. The nearest residential receptor is approximately 2,200 feet (671 meters) to the northeast of the proposed project location and adjacent to US-77 (Appendix A – Figure 9).

Direct and Indirect Impacts

Sound decreases significantly with distance from the source. For example, a given sound pressure at 25 feet (7.6 meters) from a wind turbine will drop by a factor of 4 at 50 feet (15 meters), and by a factor of 16 at 100 feet (30 meters). In the logarithmic scale of decibels, this equates to a drop of approximately 6 dBA for each doubling of the distance from a point sound source. At a distance of approximately 2,200 feet (671 meters), sound from wind turbines is in the range of 33 to 40 dBA, similar to the background noise found in a typical home (see Table 3-2; Colby et al. 2009; AWEA 2003).

Construction

Temporary noise would be generated by construction equipment during daytime hours for the duration of the approximately 4-month active construction phase. However, because the project site is 2,200 feet (671 meters) from the nearest receptor, and US-77 is less than 300 feet (91 meters) from this same receptor, the construction noise would not likely increase daytime ambient noise levels. In addition, the nighttime ambient noise environment would not be impacted by the construction phase of the proposed project.

Operations

Modern wind turbines have been designed to significantly reduce the noise of mechanical components, so the most audible noise is the sound of the wind interacting with the rotor blades, heard as a “whooshing” sound. The aerodynamic noise has a frequency range approximately between 500 to 1,000 hertz, and tends to be less noticeable by humans when compared with sound from road traffic, trains, aircraft, and industrial activities.

Sound pressure levels from point sources diminish at a rate of approximately 6 dBA per doubling of distance from the source (Table 3-5). A map illustrating the noise attenuation levels from the proposed site is included in Appendix A – Figure 10. At a distance sufficiently far from the turbine, turbine noise

Table 3-5. Estimated Turbine Noise at Distance from Turbine

Distance (feet)	1	2	4	8	16	32	64	128	256	512	1,024	2,048	4,096
Sound Pressure Level (dBA)	104	98	92	86	80	74	68	62	56	50	44	38	32

levels would be below ambient noise levels and inaudible. The closest worker receptor (Wetlands and Water Reclamation Facility) is adjacent to (approximately 500 feet (152 meters) west of the proposed wind turbine location. Given the rate of attenuation mentioned above, the maximum sound power level of 104 dBA at the turbine, and the distance to the receptor, the estimated sound level would be 50 dBA. The closest residential receptor (a single-family residence) is approximately 2,200 feet (671 meters) northeast of the proposed turbine location, more than double the manufacturer’s recommended setback of 1,000 feet (305 meters). Given the rate of attenuation mentioned above, the maximum sound power level of 104 dBA at the turbine, and the distance to the receptor, the estimated sound pressure level due to the turbine at the nearest residential receptor is less than 37 dBA. This value represents the sound power level at the nacelle when wind speeds exceed 17.9 miles per hour (8 m/s). When wind speeds are slower, the noise levels would be lower.

Estimated noise levels (approximately 50 dBA) for the closest worker receptor are well below the City of Wichita and Butler County light industrial daytime maximum noise level of 70 dBA. Based on the distance of the Wetlands and Water Reclamation Facility from the turbine, the existing noise levels at the Facility due to equipment and processes, and the estimated maximum sound levels from the turbine, impacts from noise to workers at the Facility would be minimal.

Estimated turbine noise levels (approximately 37 dBA) at the nearest residential receptor would be well below the City of Wichita and Butler County nighttime residential maximum noise level of 50 dBA (most stringent). The turbine noise levels also would be lower than EPA noise level guidelines of 55 DNL for outdoor activities. Based on the distance of the nearest residential receptor from the turbine, the proximity of the receptor to a major highway, and the estimated maximum sound levels, impacts from noise from the proposed project would be minimal.

3.2.2.4 Historic and Cultural Resources

3.2.2.4.1 Historic Resources

The NHPA is the primary Federal law protecting cultural, historic, American Indian, and Native Hawaiian resources. Section 106 of the NHPA (36 CFR Part 800) requires Federal agencies to assess and determine the potential effects of their proposed undertakings on historic properties or properties eligible for listing as an historic property (for example, sites, buildings, structures, and objects) and to develop measures to avoid or mitigate any adverse effects. Compliance with Section 106 requires consultation with the SHPO, Tribal Historic Preservation Officers, and affected tribes if the undertaking has the potential to adversely affect an historic property or one that is eligible for listing as an historic property.

Historic resources are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) maintained by the Secretary of the Interior. This term also includes artifacts, records, and remains that are related to and located within such properties as well as properties of traditional religious and cultural importance to an Indian tribe organization that meet the NRHP criteria at 36 CFR 800.16(1).

On August 28, 2009, DOE executed a Memorandum authorizing its ARRA grant recipients under the EECBG, Weatherization, and SEP programs to initiate Section 106 consultations pursuant to 36 CFR 800.2(c)(4). On April 23, 2010, the Kansas Programmatic Agreement was executed with the DOE, which further solidified a recipient's ability to initiate consultation with the SHPO. As of that date, recipients and their authorized representatives could consult with the SHPOs and Tribal Historic Preservation Officers to initiate the review process established under 36 CFR Part 800. On June 7, 2010, KCC submitted a cultural/historical resources consultation request to KSHS for the proposed project. On June 17, 2010, KSHS responded to the request with a formal response concluding, "The project as proposed should have no effect on properties listed in the National Register of Historic Places or otherwise identified in our files. This office has no objection to implementation of the project." (see Appendix C-1).

3.2.2.4.2 Cultural Resources

There are two Federally recognized Tribes in the state of Kansas: the Kickapoo Tribe of Indians in Kansas and the Prairie Band of Potawatomi Nation (74 FR 153, August 11, 2009). According to the National Association of Tribal Historic Preservation Officers (<http://www.nathpo.org>) there are no Tribal Historic Preservation Officers for the State of Kansas. However, on September 13, 2010, DOE sent scoping notices via postcard and on September 22, 2010, DOE sent requests for consultations via letters to representatives of seven tribes that are regularly notified of Federal actions in Butler County. The complete list of tribal representatives is in the stakeholder list in Appendix D-1, and copies of the consultation letters can be found in Appendix C-7.

On September 23, 2010, through submittal of a formal consultation letter, DOE entered into consultation with the KSHS, which includes the Kansas SHPO, pursuant to Section 106 of the NHPA and its implementing regulations 36 CFR Part 800 "Protection of Historic Properties (Section 106)" for the construction of the proposed project (Appendix C-1).

3.2.2.4.3 Application of the Criteria of Adverse Effect

To comply with Section 106 of the NHPA, any effects of the proposed undertaking on properties listed in or determined eligible for inclusion in the NRHP must be analyzed by applying the Criteria of Adverse Effect [36 CFR 800.16(1)] as follows:

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association.

Known and Predicted Resources (Historic)

The historical above-ground area of potential effect (APE) for the El Dorado Wind Energy Project is defined as a 0.5 mile (0.8 kilometer) radius from the proposed wind turbine location. In defining the above-ground APE, both direct and indirect effects including viewshed and visual effects were considered. DOE analyzed a computer-generated visual simulation of the viewshed of the proposed wind turbine as it would be viewed by the public to assist in determining an appropriate above-ground APE. Four properties in the city of El Dorado are listed in the NRHP. The James T. Oldham house (NPS # 06001054) at 321 S. Denver St. is the closest NRHP-listed property and is located approximately 1.25 miles (2 kilometers) north of the proposed site. There are two residential structures located within the above-ground APE. These two structures are less than fifty years of age and are not NRHP-eligible.

Known and Predicted Resources (Cultural)

The archaeological APE for the proposed project is defined as the construction site where direct ground-disturbance activities are expected – an area less than 1 acre (0.4 hectare). In 2005, the Wichita State University (WSU) Department of Anthropology completed an archaeological survey of the area during the initial construction of the Wetlands and Water Reclamation Facility (Appendix D-6). The survey evaluated the area of the proposed wind turbine. The survey identified three new archaeological sites and two previously recorded sites, all of which are on the western portion of the property near the east bank of the Walnut River. The closest archaeological site is over 1,350 feet (410 meters) from the proposed wind turbine location. The survey did not identify any cultural resources within the footprint of the proposed project site.

Direct and Indirect Impacts

Historic

DOE determined that there are no historic properties located within the 0.5 mile (0.8 kilometer) APE and that the proposed project would have no effect on properties listed or eligible for listing in the NRHP. As noted above, the KSHS had previously reviewed the archaeological report (Appendix D-6) for the project area and its cultural resources files for the area, and in a letter to the KCC dated June 17, 2010, the KSHS determined that the proposed project “should have no effect on properties listed in the National Register of Historic Places or otherwise identified” in their files. On September 23, 2010, DOE corresponded with KSHS and stated that unless KSHS required further response, DOE would utilize the KSHS June 17th “no effects” determination to document compliance with Section 106 of the NHPA. To date, DOE has not received further correspondence from KSHS on the matter. Appendix C-1 of this EA includes copies of the aforementioned correspondence.

Cultural

No archaeological resources appear to be located within the cultural APE (construction footprint). The closest archaeological site was over 1,350 feet (410 meters) from the proposed wind turbine location. Based on the findings of the 2005 WSU archaeological study (Appendix D-6), DOE does not anticipate

encountering cultural resources. However, if archaeological resources were encountered during construction, ground-disturbing activities would immediately cease, and the KSHS would be contacted for resolution and further instruction regarding additional studies and/or avoidance, minimization, or mitigation measures in accordance with the NHPA. Furthermore, if human skeletal remains and/or any objects falling under the *Native American Graves and Repatriation Act* (NAGPRA) were uncovered during construction, in addition to ceasing ground-disturbing activities and notifying KSHS, the appropriate NAGPRA representative would be notified, as requested by the Iowa Tribe of Kansas and Nebraska (see below). Additionally, the Osage Nation Historic Preservation Office would be contacted, as requested by the tribe.

With respect to tribal consultations, DOE received four responses. The Kickapoo Tribe in Kansas responded on September 27, 2010, stating that no further Section 106 consultation was required and concurring with the no adverse effect determination. The Iowa Tribe of Kansas and Nebraska responded on October 6, 2010, expressing no objections if the project is cleared through the SHPO, but requested that project construction cease immediately and the appropriate NAGPRA representative be notified if human skeletal remains and/or any objects falling under NAGPRA were uncovered during construction. The Osage Nation requested a copy of the 2005 Phase I Archaeological Survey WSU prepared. DOE provided a copy of the subject report to the Osage Nation on November 30, 2010. The Osage Nation responded on December 16, 2010 and concurred that the proposed project, “most likely will not adversely affect properties of cultural or sacred significance to the Osage Nation.” The Osage Nation further requested that work cease immediately and their Historic Preservation Office be contacted if artifacts or human remains are discovered during project construction. The Prairie Band Potawatomi Nation responded October 28, 2010, stating that it had no objections to the proposed development. Copies of tribal correspondence can be found in Appendix C-7.

3.2.2.5 Geology and Soils

3.2.2.5.1 Geology

The proposed project area is located in the Flint Hills Physiographic region, which runs north and south through east-central Kansas. The area is named for the chert or flint rock that covers the bluestem slopes. The surficial geology of the area is alluvium, which is typically at least 10 feet (3 meters) thick. The neighboring member is Barneston Limestone and Doyle Shale with an average mapping thickness of 100 to 120 feet (30 to 37 meters). The area is part of the Chase group, the Gearyan stage, the Lower Permian series, and the Permian system (Abner 1991). Butler County and El Dorado became an important petroleum production and refining center following the discovery of the El Dorado oil field in 1915.

3.2.2.5.2 Soils and Prime Farmland

Soils in the site are Verdigris silt loams that are occasionally flooded. The component is found on flood plains or river valleys with slopes of 0 to 3 percent. It is moderately well drained and shrink-swell potential is moderate. Though the soil is occasionally flooded, water does not pond. The soil component is classified as a R076XY013KS Loamy Lowland (draft) (PE 30-36). The soil does not meet hydric criteria (B rating). The soil also contains less than 10 percent Osage, which is hydric. The soil is classified as prime farmland. A map showing soil types in the vicinity of the project area is included as Appendix A – Figure 11.

Direct and Indirect Impacts

Site preparation and project construction, including an access road and underground transmission line, would result in soil disturbance. As part of project construction, less than one acre (0.4 hectare) of current agricultural land would be converted to a nonagricultural use. Since construction would disturb less than

one acre (0.4 hectare) of land, a National Pollutant Discharge Elimination System (NPDES) Stormwater Program Permit would not be required. However, El Dorado has committed to using sediment and erosion pollution control BMPs in conformance with a plan specific to this project. At a minimum, BMPs would include the following: containing excavated material, using silt fences, protecting exposed soil, stabilizing restored material, and revegetating disturbed areas. A third-party engineering firm would provide the SWPPP and design sediment and erosion control measures for the project. Onsite construction personnel would perform weekly inspections of the erosion and sediment control structures and the City would retain the third-party engineering firm to perform monthly inspections.

In accordance with the *Farm Protection Policy Act*, and in an effort to determine whether or not the proposed project would have a significant impact on prime farmlands or farmland of statewide importance, the City of El Dorado submitted Natural Resources Conservation Service (NRCS) Form NRCS-AD-1006 (10-83) to the U.S. Department of Agriculture NRCS El Dorado Service Center. The NRCS Service Center determined that the project would have a Farmland Conversion Impact Rating of 126. The impact rating of 126 does not exceed the NRCS's threshold value of 160; therefore, minimal impacts to prime farmland are likely.

3.2.2.5.3 Seismic Activity

Although the area experiences many micro-earthquakes (that is, those too small to feel), most of the seismic activity that occurs in Kansas is attributed to two major geologic structures: the Central Kansas Uplift, and the Nemaha Ridge/Humboldt Fault Zone. The fault zone runs generally north to south from Oklahoma City, Oklahoma, through the east-central portion of Kansas, including Butler County and the proposed project area, to Omaha, Nebraska. At least 25 earthquakes occurred in Kansas between 1867 and 1976, and more than 100 were measured between 1977 and 1989 (Steeple and Brosius 1996). With the geological features in the vicinity, it stands to reason that Butler County and the proposed project area have a small to moderate risk of future seismic activity that could jeopardize the structural integrity of the proposed turbine.

Direct and Indirect Impacts

Though the risk of a major earthquake in Kansas and the proposed project area is low, the area will continue to have occasional, unpredictable, small-to-moderate earthquakes. The Kansas Geological Survey estimates that a magnitude 5.7 earthquake might occur in Kansas about every 1,800 years, a magnitude 6.0 about every 2000 years, and a magnitude 6.6 every 10,000 years. Negligible impact to the project is anticipated with respect to earthquakes.

3.2.2.6 Biological Resources

Biological resources including birds and bats can be injured or killed if they fly into operating wind turbines. In addition, vegetation and habitat for various species could be disturbed by construction and decommissioning activities associated with the proposed project. The USFWS and KDWP are responsible for protecting various plant and animal species and associated habitat in the proposed project area. A primary emphasis of these agencies is to ensure appropriate actions are taken to reduce or mitigate potential harm to protected species and habitat.

DOE conducted a literature and database review to identify bird and bat species known to occur within or near the project area and reviewed the regulatory status (that is, threatened, endangered, special concern) of rare birds that could potentially occur in the project area. Bat species distributions and habitat information were obtained from Bat Conservation International. Natural Heritage database information, including the presence of any important biological resources for the project vicinity, was obtained from

KDWP. This included information concerning known locations of rare, threatened, or endangered species, rare vegetative communities, scenic rivers, parks, preserves, and wildlife areas.

3.2.2.6.1 Migratory Birds

The *Migratory Bird Treaty Act* (16 U.S.C. 703-7012; MBTA) implements four international conventions that provide for international protection of migratory birds. The MBTA prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts and nests, except when specifically authorized by the USFWS. While MBTA has no provision for allowing unauthorized take, the USFWS recognizes that some migratory birds might be taken during activities such as wind turbine operation even if all reasonable measures to avoid impacts have been implemented. The USFWS works with individuals and industries to eliminate impacts to migratory birds.

No existing bird survey data exist for the project area; information of breeding bird use in the vicinity of the project area was limited. There are no Important Bird Areas (IBAs) as defined by the National Audubon Society (Cecil et al. 2009), and no known areas of high bird concentration or use are in close proximity to the project area. The National Audubon Society map of IBAs indicates the nearest IBA is in Osage County, Oklahoma, which is approximately 130 miles (209 kilometers) south of the project area (National Audubon Society 2010). Additionally, highly suitable avian habitat within the project area is limited, as the project area and the immediate surrounding area is composed primarily of agricultural croplands. Constructed wetlands occur north of the Wetlands and Water Reclamation Facility, and could be used by a variety of bird species, including waterfowl. The wetlands features are more than 600 feet (183 meters) from the proposed turbine site, which provides adequate separation for the majority of bird approach patterns. Therefore, potential impacts from the proposed project to migratory birds are unlikely.

3.2.2.6.2 Bald and Golden Eagles

Bald and golden eagles are included under the MBTA and are afforded additional legal protection under the *Bald and Golden Eagle Protection Act* (16 U.S.C. 668-668d). On August 8, 2007, the bald eagle was removed from the list of Threatened and Endangered Wildlife (72 FR 37345, July 9, 2007). Subsequent to the delisting, the USFWS issued a Final Rulemaking that provided a vehicle for limited take of bald and golden eagles, provided the take is associated with otherwise lawful activities (74 FR 46836, September 11, 2009).

Consultation with USFWS on August 20, 2010, revealed that eagles will nest and often over-winter near large rivers and reservoirs throughout Kansas. Because of this fact, the KDWP listed the El Dorado Reservoir, located 3.5 miles (5.6 kilometers) northeast of the proposed site, as critical habitat for eagles prior to USFWS' delisting of the birds. Although the USFWS is not aware of any known nest sites near the El Dorado Reservoir, it is likely that they nest over winter in the area (USFWS 2010d) (Appendix C-4). The USFWS concluded that the project site is not close enough to known eagle nesting sites to cause disruption, and it is unlikely that eagles would use the Walnut River in the vicinity of the project due to its small and narrow features. The USFWS considers it sufficient enough for the recipient to take normal, standard precautions in regard to minimizing potential conflicts with eagles in accordance with the USFWS 2003 interim guidelines on minimizing impacts to wildlife (USFWS 2003). USFWS provided DOE with known eagle nest data for the state of Kansas (Appendix C-4).

Direct and Indirect Impacts

The City of El Dorado has and would continue to give consideration to the *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (USFWS 2003). El Dorado has committed to incorporating applicable recommendations and has included them as "Project Proponent-Committed

Practices” for the proposed project as described in Section 2.5 in order to avoid and minimize potential impacts to migratory birds, as well as bald and golden eagles.

The City of El Dorado has also reviewed and incorporated several of the BMPs from the USFWS Wind Turbine Guidelines Advisory Committee’s Site Development and Construction BMPs (USFWS 2010c). The following is a brief description of facts demonstrating that El Dorado would follow USFWS’s interim guidelines. The proposed project consists of a single wind turbine located in already disturbed habitat. Therefore, configuration of turbines is not applicable. The proposed turbine design is a monopole, no external features are proposed to the design and all electric lines would be placed underground. The proposed project would require a permanent access road and temporary disturbance of soils, which would be limited to less than one acre (0.4 hectare). However, the immediate area around the proposed turbine is agricultural cropland and does not provide highly valuable bird habitat or fragment any such habitat. Construction BMPs would be implemented as part of the proposed project. The area surrounding the turbine footprint would continue to be maintained as agricultural cropland. The City would use the minimum aviation lighting required by FAA in order to minimize potential bird and bat impacts.

Based on the lack of migration corridors in the area and the lack of suitable stopover habitat, DOE anticipates that impacts to migratory birds would be negligible. Furthermore, consultation with the Region 6 USFWS office indicated that there would be a low possibility for flyovers of migratory birds (USFWS 2010d).

Although the El Dorado Reservoir is listed as a critical habitat for bald eagles by the KDWP, the closest known nest site is located over 30 miles (48 kilometers) west near Wichita, Kansas. Additionally, although eagles could be present near the project site, it is unlikely that eagles would utilize the Walnut River in the vicinity of the project due to its small and narrow features. In order to avoid and minimize potential impacts to bald and golden eagles, the City of El Dorado has committed to incorporating all applicable USFWS recommendations and has included them as Project Proponent-Committed Practices for the proposed project as described in Section 2.5.

3.2.2.6.3 Bats

DOE found no records of specific bat surveys in Butler County. Consultation with the USFWS on August 20, 2010, provided the following guidance concerning bats: “USFWS is not aware of any bats listed in the vicinity of the site. Indiana Bat and Gray Bat do not exist in the area. USFWS is not aware of any concentration areas of native bat species in the site vicinity” (USFWS 2010d) (Appendix C-4).

Direct and Indirect Impacts

The proposed project site is not considered significant bat habitat. The estimated mean bat fatality per turbine per year for Midwest sites is between 0.1 and 7.8 bats (Arnett et al. 2008). Given that the El Dorado project consists of a single turbine and the site is located in a region of very low bat species density, bat fatality for the project is likely to be on the low end of this range. Therefore, DOE anticipates minimal impacts to bat species.

3.2.2.6.4 Threatened, Endangered, and Special Concern Species

DOE reviewed information regarding the potential occurrence of Federally listed species using the USFWS Endangered Species website for Kansas and a list of potentially occurring listed species for Butler County, Kansas (USFWS 2010a). The USFWS lists one Federally endangered species for Butler County; a fish known as the Topeka shiner (*Notropis topeka*) (USFWS 2010a). KDWP’s Recovery Plan for the Topeka shiner identifies critical habitat for this species as restricted to the South Fork Cottonwood River and its tributaries from the Butler/Chase County line upstream to its headwaters (KDWP 2004).

The Recovery Plan does not extend to the portion of the Walnut River in the vicinity of the proposed project site.

The project site lies on the eastern fringe of the Central Flyway for migratory birds. There is a low possibility for flyovers by Federally listed species including the Least Tern, Piping Plover, and Whooping Crane.

- Least Tern (*Sterna antillarum*) is a Federally listed endangered species and a summer resident in Kansas. Terns require barren areas near water such as saline flats in salt marshes, sand bars in river beds, and shores of large impoundments that support dependable food supply of small fish and aquatic crustaceans. Least terns might occur accidentally or occasionally as transients anywhere in the state; however, their presence at or near the project site is unlikely due to the lack of suitable habitat (i.e., sand bars) within the Walnut River.
- Piping Plover (*Charadrius melodus*) is a Federally listed endangered species that inhabits sandy beaches, lakeshores, and dunes. This preferred habitat does not occur within or immediately adjacent to the proposed project area. Piping plovers could possibly travel through the area, but their presence is not likely.
- Whooping Crane (*Grus americana*) is a Federally listed endangered species with a flyway corridor through central Kansas that is approximately 200 miles wide and represents 95 percent of whooping crane sightings. The majority of whooping crane sightings (75 percent) occur within a 60-mile-wide core of the corridor and can be found approximately 70 miles (113 kilometers) west of the project area. Butler County lies on the eastern fringe of the whooping crane corridor. The project site lies approximately 10 miles (16 kilometers) east of the eastern limits of the corridor; therefore, the likelihood for whooping crane activity in the area of the project is low. The constructed wetlands that are located on the proposed project site are not anticipated to be used by the whooping crane because the wetlands do not provide sufficient shallow shoreline areas, which is preferred by this species.

According to the USFWS list of birds of conservation concern (USFWS 2008), Butler County is located within the Eastern Tallgrass Prairie Region (Bird Conservation Region 22). This list identifies 39 birds, including the bald eagle (*Haliaeetus leucocephalus*), Peregrine Falcon (*Falco peregrinus*), Whip-poor-will (*Camprimulgus vociferous*), Short-eared Owl (*Asio flammeus*), Black Tern (*Chlidonias niger*), and Henslow's sparrow (*Ammodramus henslowii*), which are also listed by the KDWP as endangered/threatened species or species of concern.

As part of this review, DOE searched KDWP databases for known occurrences of State-listed threatened or endangered species within Butler County. The review identified four State-listed endangered species and six State-listed threatened species in Butler County.

The four State-listed endangered species include:

- Insects – American burying beetle (*Nicrophorus americanus*)
- Birds – Eskimo curlew (*Numenius borealis*), least tern, and whooping crane.

The six State threatened species include:

- Birds – bald eagle, piping plover, and snowy plover (*Charadrius alexandrinus*)
- Snails – sharp hornsnail (*Pleurocera acuta*)
- Mammals – Eastern spotted skunk (*Spilogale putorius*)

- Fish – Topeka shiner.

As previously stated, the project site is located in an area with limited suitable habitat for threatened or endangered species (previously disturbed agricultural cropland). In its letter dated July 30, 2010, the KDWP indicated that the project would not impact any public recreational areas, nor could KDWP document any potential impacts to currently listed threatened or endangered species or species in need of conservation (KDWP, 2010). The correspondence is provided in Appendix C-3.

Direct and Indirect Impacts

The Topeka shiner is the only Federally listed (endangered) species for Butler County; however, no habitat for the species occurs in the vicinity of the project area, and DOE concludes that the proposed project would not affect the Topeka shiner. The KDWP reviewed the proposed project concerning the four State-listed endangered species, six State-listed threatened species, and the nine species in need of conservation listed in Butler County. In formal correspondence to the City of El Dorado on July 30, 2010, KDWP stated that it did not document any potential impacts to currently listed threatened or endangered species or species in need of conservation. KDWP concluded that there would be no impact to critical wildlife habitats and that no special mitigation measures were necessary (Appendix C-3).

3.2.2.6.5 Plant Species

The project area is located in the Flint Hills Ecoregion, which is also historically known as Bluestem Pastures or Blue Stem Hills. The Flint Hills represent the last expanse of intact tallgrass prairie in the nation and include four tallgrass prairie preserves. However, the proposed project site is not located in a preserve and no protected plant species are known to exist in the project area. Vegetation in the proposed project area consists of agricultural cropland. The lands that would be primarily affected by the proposed project, including the location of the turbine, transmission line, and access road, have been previously disturbed by the construction of the Wetlands and Water Reclamation Facility or by past and present farming activities.

Direct and Indirect Impacts

The land areas that primarily would be affected by the proposed project include those disturbed by the turbine foundation, access road, and transmission line trenching. Impacts to plant species would include the loss of less than one acre (0.4 hectare) of agricultural row crops (currently soy beans). DOE does not anticipate impacts to any protected plant species. Conservation measures would include cleaning of equipment/vehicles to reduce the translocation of an invasive species, use of clean fill and mulch, and replanting with only native plant species. The City of El Dorado would include these conservation measures within the construction requirements to ensure they are implemented. DOE anticipates minimal impacts to plant species from the implementation of the proposed project.

3.2.2.7 Human Health and Safety

Workers could be injured or killed during construction, operation, and decommissioning of wind turbines through industrial accidents such as falls, fires, exposure to environmental hazards, and equipment dropping or collapsing. Such incidents are uncommon in the wind industry and are avoidable through implementation of proper safety practices and equipment maintenance.

All contractors, subcontractors, and their personnel would be required to comply with all Federal, State, and local worker safety requirements, specifically, all of the applicable Occupational Safety Health Administration requirements. Workers would observe safety procedures specific to the Nordic Windpower N1000 turbine whenever work was done on the turbine. All contractors would be required to

have health and safety plans that outline actions to mitigate an accident and actions to be taken in case of an emergency including hospital location, first aid information, and emergency numbers.

3.2.2.7.1 Turbine Collapse

The potential for the proposed turbine to fall over or collapse causing damage, injury, or death is extremely rare. The proposed tower foundation would be designed to ensure structural safety under the specific conditions at the proposed site. Although tower collapses are rare, reported instances have been related to blade strikes, rotor over speed, cyclonic winds and poor or improper maintenance (Global Energy Concepts 2005).

The fall zone is defined as the circular area (centered at the proposed wind turbine location) with a radius equal to the height of the wind turbine. In the event of a wind turbine collapse, wind turbine towers tend to buckle or bend prior to collapse and therefore the fall zone does not necessarily include the full height of the structure. However, the fall-zone radius for this proposed project was determined to be equal to the total turbine height, or approximately 330 feet (101 meters). All areas located within the fall zone are occupied by agricultural cropland owned by the City of Eldorado and have restricted access. Portions of the El Dorado Wetlands and Water Reclamation Facility are located at the eastern edge of the fall zone, and a high-voltage, overhead line transmission tower is located at the southwestern edge of the fall zone. No residences (or areas zoned for residential use) are located within the fall zone of the turbine. Any future projects occurring within the fall zone would do so under full knowledge of the risks posed to human health and safety.

Direct and Indirect Impacts

Given that wind turbine tower collapse incidents are extremely rare and that the City of El Dorado controls all of the fall zone area, which is undeveloped agricultural land, DOE anticipates negligible impacts to human health and safety from tower collapse.

3.2.2.7.2 Blade and Ice Throw

Turbine breakage (and throwing) of one or more turbine blades is possible, but very unlikely. Estimates of blade throw vary, but the probability of being struck outside of a one-blade diameter of the tower base is about 10^{-7} per year for a fixed building and substantially less for people who are mobile (MacQueen et al. 1983). Another potential source of accidents is ice shedding and ice throw. Ice shedding, or ice throw, refers to the phenomenon that can occur when ice accumulates on rotor blades and subsequently breaks free or melts and falls to the ground. Although a potential safety concern, it is important to note that while more than 90,000 wind turbines have been installed worldwide, there has been no reported injury caused by ice thrown from a turbine (Tetra Tech EC, Inc. 2007). The proposed project would be supplied with ice sensors on the turbine blades. When ice forms, the sensors would engage and the turbine would not be permitted to rotate until the ice has melted. This technology is intended to prevent ice throws. Ice that has accumulated on the blades would fall to the foot of the turbine as it melts. To prevent accident or injury from ice that falls as it melts, the turbine requires the area directly underneath to be a clear zone.

Direct and Indirect Impacts

The City of El Dorado controls all of the undeveloped agricultural land in the potential ice throw area and limits access to this area. Engineering controls would be utilized to minimize the potential for ice throw. Therefore, DOE anticipates negligible impacts to human health and safety from blade or ice throw.

3.2.2.7.3 Lightning

A study conducted for the DOE National Renewable Energy Laboratory successfully identified damage mechanisms from direct and indirect effects of lightning strikes on wind turbines (NREL 2002). Lightning strikes can cause extensive damage to the turbine blades, controllers, and power electronics. However, protective measures, such as protection from tall nearby communication towers, integral blade protection in the form of conductors, bonding to minimize arcing, good turbine grounding, controller cable and controller shielding, and transient voltage surge suppression, can reduce such damage. The amount of lightning damage is a factor of the lightning activity in the area, the height and prominence of the turbine, the terrain, and the lightning protection system in place. The proposed project area experiences approximately 54 days per year where there is the potential for thunderstorms and lightning.

Direct and Indirect Impacts

Several towers associated with the refinery and high-voltage transmission lines are located in the vicinity of the project area with no history of adverse effects from lightning. The Nordic Windpower N1000 is fitted with a Level I lighting protection system, and, in the event of a strike, would be applied to the wind turbine generator systems (see Appendix D-2).

3.2.2.7.4 Tornadoes

The project site is located on the eastern edge of what is commonly referred to as “Tornado Alley.” Although the boundaries of Tornado Alley are debatable (depending on which criteria is used - that is, frequency, intensity, or events per unit area), the region from central Texas, northward to northern Iowa, and from central Kansas and Nebraska east to western Ohio is often collectively known as Tornado Alley. Meteorologically, the region known as Tornado Alley is ideally situated for the formation of supercell thunderstorms, often the producers of violent tornadoes.

Around 77 percent of tornadoes in the United States are considered weak, with a rating of 0 or 1 on the Enhanced Fujita Tornado Damage Intensity Scale EF0 to EF5, where EF0 is the weakest. About 95 percent of all U.S. tornadoes are below EF3 intensity. The remaining small percentage of tornadoes are categorized as violent (EF3 and above). Of these violent twisters, only a few (0.1 percent of all tornadoes) achieve EF5 status, with estimated winds over 200 miles per hour (322 kph) and nearly complete destruction. The state of Kansas averages 55 tornadoes per year.

Direct and Indirect Impacts

The turbine is designed to shut down during periods of extremely high winds to prevent damage to the turbine. Although the proposed project is located in an area that does experience tornadic activity, the likelihood of a severe tornado at this specific location is remote and adverse impacts would be negligible.

3.2.2.7.5 Air Traffic

The project is not located within the immediate vicinity of a local or regional airport or a military air base. The Captain Jack Thomas El Dorado Municipal Airport is approximately 2 miles (3.2 kilometers) southeast of the proposed project location. All structures more than 200 feet meters (61 meters) tall must have aircraft warning lights in accordance with FAA requirements.

Direct and Indirect Impacts

According to the FAA in a letter dated September 28, 2010, the initial aeronautical study performed for the proposed project indicated the project would be a presumed hazard to air navigation (Appendix C-2). The FAA indicated that a favorable determination could be made if the structure height was reduced to 306 feet (93 meters) above ground level or if the FAA performed additional studies for the original height

(330 feet/101 meters). The FAA stated that the additional study could take up to 120 days, would include a public comment period, and would not guarantee a determination of no hazard. On October 21, 2010, the City of El Dorado requested that the FAA perform the additional study of the original tower height.

The FAA performed the requested additional review, and on December 1, 2010, issued a Determination of No Hazard to Air Navigation letter to El Dorado (Appendix C-2). The Determination was subject to review if an interested party filed a petition that the FAA received on or before December 31, 2010. No such petitions were received by the FAA and the determination became final on January 10, 2011. The structure will be marked or lighted in accordance with FAA Advisory Circular 70/7460-1 K Change 2 (FAA 2007).

3.2.2.7.6 Environmental Hazards

DOE reviewed a database of Federal and State environmental records to identify potential environmental hazards (EDR 2010). Appendix D-7 includes the search criteria and all reviewed data. DOE reviewed the database for environmental threats, specifically storage vessels, and/or releases on the Wetlands and Water Reclamation Facility site or within the vicinity of the proposed project area that are known to have or are expected to result in an environmental condition that could adversely impact the proposed project site. According to a review of historical aerial photographs and topographic maps, the proposed project area has never been developed and has been agricultural land for the last several decades.

Direct and Indirect Impacts

A review of an environmental database report (EDR 2010) led to DOE's conclusion that no environmental hazards would be anticipated within the proposed project site.

3.2.2.7.7 Public Security

Project facilities have the potential for members of the public to attempt to climb towers, open electrical panels, or encounter other hazards. Public access to the Wetlands and Water Reclamation Facility is already restricted by the City of El Dorado and would continue to be restricted. A main gate is closed during non-business hours and the rest of the property is fenced. The site is secure with limited access and not immediately accessible from the highway. In addition, the Nordic Windpower N1000 allows no opportunities for outside climbing of the tower. The facility would be posted to restrict access and include high-voltage area warning signs.

Direct and Indirect Impacts

DOE anticipates negligible adverse public security impacts from the proposed project. Safety signage would be posted around the tower, transformers, and other high-voltage equipment in conformance with applicable Federal, State, and local regulations. The City of El Dorado would educate its employees with access to the area on security and safety procedures to be observed while in the vicinity of the turbine.

3.2.2.7.8 Electromagnetic Fields

The term electromagnetic field (EMF) refers to electric and magnetic fields that are present around any electrical device. Electric fields arise from the voltage or electrical charges and magnetic fields caused by the flow of electricity or current traveling along transmission lines, collector lines, substation transformers, house wiring, and electric appliances. The intensity of the electric field is related to the voltage of the line and the intensity of the magnetic field is related to the current flow through the conductors (wire). EMF can occur indoors and outdoors. While the general consensus is that electric fields pose no risk to humans, the question of whether exposure to magnetic fields potentially can cause biological responses or even health effects continues to be the subject of research and debate.

Wind turbines are not considered a significant source of EMF exposure since emissions levels around wind turbines are low (OCMOH 2010).

Direct and Indirect Impacts

The turbine would be located approximately 2,200 feet (671 meters) from the nearest residence where EMF would be at background levels. Based on the most current research on EMF and the distance between the turbine and closest residence, DOE anticipates negligible impacts related to EMF from the proposed project.

3.2.2.8 Transportation

The El Dorado Wetlands and Water Reclamation Facility and the proposed project site are served by US-77 to the east and via Wetlands Drive (the Facility driveway). Access to the local Interstate transportation system is available at Interstate 35 (I-35) to the northwest, which can be accessed via US-77 and Kansas State Highway 254 (K-254). The most direct access route to the Facility from the north and east is via I-35 and US-77. The most direct access route to the facility from the south and west is via I-35 and K-254.

Construction equipment would likely travel to the project site from Wichita, Kansas, via I-35 (exit 71), to K-254, then south on US-77 to the project site. Large pieces of equipment such as the turbine tower, rotor blades, and nacelle would be designated oversized loads.

Direct and Indirect Impacts

The City of El Dorado would construct an estimated 400-foot (122-meter), permanent gravel access road from the Wetlands and Water Reclamation Facility to the proposed tower site (Appendix A – Figure 3). No other new roads would be necessary for the construction, operation, and eventual decommissioning of the wind turbine at the proposed location.

El Dorado's proposed project is expected to generate up to eight jobs during the selection, evaluation, and construction of the project. During the active construction phase of the project, which is anticipated to last approximately 4 months, there would be a temporary increase in the number and frequency of vehicles on the local roads surrounding the project site. Eight workers would not all be onsite at one time. Negligible long-term or permanent impacts to the local transportation systems would occur as a result of the proposed project.

The City has not finalized a plan regarding transportation of project materials and equipment; however, it is likely the project would use existing infrastructure. Local traffic impacts would be primarily along I-35 and US-77. Additionally, minor road improvements or adjustments might be needed to deliver the extended-length components to the project site. Any necessary road closures would be temporary and would only apply to the roads immediately surrounding the project site. The City of El Dorado would repair any damage to the local road network as a result of delivering project equipment.

Minimal transportation impacts would be associated with the operation of the turbine since trucks delivering equipment would use existing interstate infrastructure.

3.2.2.9 Socioeconomics and Environmental Justice

Executive Order 12898 (February 11, 1994) directs Federal agencies to identify and address “disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” The racial composition of the city of El Dorado in 2000 was 94.3 percent white with the remainder being minorities, compared with 94.9 percent for Butler County. The median household income in 1999 dollars for a household in the city of El Dorado

in 2000 was \$33,098, compared with \$45,474 for Butler County as a whole. About 10.4 percent of families and 13.5 percent of individuals in the city of El Dorado were below the poverty level in 2000. This contrasts to comparable figures of 5.4 percent and 7.3 percent, respectively, for Butler County as a whole (Bureau of the Census 2000).

Direct and Indirect Impacts

Construction of the proposed project would create eight temporary jobs, and the project is expected to retain one permanent faculty position during the operations and maintenance phase of the project. The temporary construction jobs would last approximately 12 months and would not contribute to a population increase in the area. The area's public and community services such as schools, health care, social services, and fire protection would not be affected by the proposed project. No residences, businesses, or industries would be negatively affected or relocated as a result of the proposed project. The additional permanent job would provide a limited benefit to the local economy. The proposed project would be located within an area that is currently zoned agricultural, but would be rezoned to light industrial prior to construction. The nearest residential-zoned area is approximately 0.5 mile (0.8 kilometers) to the northwest (Appendix A – Figure 6). DOE did not identify adverse impacts to human health or environmental effects in the analysis for this EA. Therefore, there would be no disproportionately adverse human health or environmental effects on minority or low-income populations.

3.2.2.10 Air Quality and Climate Change

The affected air environment can be characterized in terms of concentrations of the criteria pollutants carbon monoxide, sulfur dioxide, particulate matter, nitrogen dioxide, ozone, and lead. The EPA has established National Ambient Air Quality Standards for these pollutants. There are two standards for particulate matter, one for particulates with an aerodynamic diameter less than or equal to a nominal 10 micrometers and one for particulates with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. According to the EPA's air quality maps and monitoring data (EPA 2010), Butler County is in attainment for all pollutants listed above.

The EPA has found that the "aggregate group of the well-mixed greenhouse gases" (GHG) constitutes an air pollutant that contributes to climate change. Carbon dioxide is a GHG, and the proposed project would have an indirect impact on carbon dioxide emissions from fossil fuel sources.

Electricity for the El Dorado Wetlands and Water Reclamation Facility is currently supplied by Westar Energy. Westar Energy obtains its electricity through multiple sources including coal-fired power plants (48 percent), natural gas (41 percent), nuclear (8 percent), wind (3 percent), and landfill gas (0.08 percent) (Westar 2010). Nonrenewable fossil fuels are, therefore, the primary electricity source for the facility.

Direct and Indirect Impacts

The proposed project would be an emissions-free energy generation project that would provide 98 percent of the El Dorado Wetlands and Water Reclamation Facility's average annual electrical power and not degrade air quality. Aside from temporary dust generated during construction and decommissioning, which would be minimized to the extent practicable using BMPs (for example, by watering dry roads), and temporary emissions from transportation and construction, the proposed project would not result in any adverse impacts to air quality. The project would not require any air permits.

Carbon dioxide is a GHG that contributes to climate change, which in turn causes harm to many physical and biological systems. The proposed project would reduce the City of El Dorado's carbon footprint by reducing reliance on fossil fuels. It is assumed if the Wind Energy Project was not built; the electricity used by the facility would continue to be supplied primarily by fossil-fuel sources. The annual energy capture associated with the installation of a 1.0-megawatt wind turbine at the facility is anticipated to be

approximately 2.43 million kilowatt-hours per year (GBA 2010). Westar Energy obtains 89 percent of its electricity through fossil fuels including coal and natural gas (Westar 2010). Therefore, the project's carbon reduction is calculated as follows:

89 percent fossil fuel use × 2.0562 pounds of carbon dioxide per kilowatt-hour × 2,430,000 kilowatt-hour per year = 4,446,944 pounds of carbon dioxide per year, or 2,223 short tons of carbon dioxide per year, or 2,017 metric tons of carbon dioxide per year, or 1,985 long tons of carbon dioxide per year.

The proposed project would reduce El Dorado's carbon footprint by reducing reliance on fossil fuels and would have an indirect positive impact to air quality.

3.2.2.11 Utilities and Energy

The proposed project would have a nameplate capacity of 1.0 megawatt and is anticipated to offset approximately 6,175 kilowatts of electrical load on a daily basis; with the current electrical load for the El Dorado Wetlands and Water Reclamation Facility averaging 6,301 kilowatts (GBA 2010). This represents approximately 98 percent of the Facility's demand for an average day. The proposed project would produce significant amounts of clean electricity for the 20-year design life. If the project did not move forward, it is assumed the electricity used by the City of Eldorado at this location would continue to be supplied primarily by fossil fuel sources.

The National Telecommunications and Information Administration (NTIA) is responsible for managing the Federal spectrum and is involved in resolving technical telecommunications issues for the Federal government and private sector. The NTIA reviews projects and aids in siting wind turbines, so they do not cause interference in radio, microwave, radar, and other frequencies, disrupting critical lines of communication. While a voluntary process, upon submittal by a project proponent, the NTIA provides project-specific information to the members of the NTIA's Interdepartment Radio Advisory Committee for review and comment on whether the proposed project could potentially interfere with Federal radio communication links (Appendix C-5).

Direct and Indirect Impacts

No adverse energy impacts would result from the project. While impacts to the electromagnetic communication links (i.e., radio, microwave, radar) are not anticipated, should a Federal agency or private entity identify concerns with the project, El Dorado would work directly with the party to address those concerns. The proposed project is anticipated to produce a total of 48,600 megawatt-hours of clean electricity for the 20-year design life. The proposed project would meet 98 percent of the Facility's electricity demand. This would reduce carbon emissions by 2,017 metric tons of carbon dioxide equivalents per year and assist the City of El Dorado with reducing its carbon footprint.

The NTIA was notified of the proposed Project on September 10, 2010. NTIA provided a letter response dated November 2, 2010 that no Federal agencies identified any concerns regarding blockage of their radio frequency transmissions as a result of the proposed project (see Appendix C-5).

3.2.2.12 Water Resources

3.2.2.12.1 Ground and Surface Water

In compliance with the *Clean Water Act*, the proposed site was investigated for the presence of surface water. The project area is located in the Flint Hills Physiographic region, which runs north and south through east-central Kansas (NRCS 2008). The area is named for the chert or flint rock that covers the

bluestem slopes. The water supply in the area is extremely variable but water resources have been enhanced by the construction of several lakes, including the El Dorado Reservoir located approximately 3.5 miles (5.6 kilometers) northeast of the project site (Appendix A – Figure 1). The Walnut River is one of two principal bodies of water in Butler County and is located approximately 0.25 mile (0.4 kilometer) northwest of the proposed project site (Appendix A – Figure 12). The quality of surface and groundwater in the area has historically been a concern and has been found to be hard with a high content of chloride and sulfate at times. There are constructed wetlands approximately 250 feet (76 meters) to the north of the project site that are used by the Wetlands and Water Reclamation Facility as part of its water treatment program (Appendix A – Figure 12). No surface water resources occur at the proposed project site.

Direct and Indirect Impacts

The proposed project would have negligible impacts to any groundwater or surface water resources. No runoff or discharges from the proposed project construction area would directly enter the Walnut River. The majority of the construction site would be permeable. The final turbine pad would be approximately 45 feet (13.7 meters) by 45 feet (13.7 meters) (2,025 square feet/188 square meters) or an estimated 0.046 acre (0.019 hectare) of impermeable foundation. Since less than one acre (0.4 hectare) of ground would be disturbed, an NPDES Stormwater Program Permit would not be required. However, El Dorado has committed to using sediment and erosion pollution control BMPs in conformance with a plan specific to this project. A third-party engineering firm would provide an SWPPP and design sediment and erosion control measures for the project. Onsite construction personnel would perform weekly inspections of the erosion and sediment control structures and the City would retain the third-party engineering firm to perform monthly inspections.

3.2.2.12.2 Floodplains and Wetlands

Pursuant to 10 CFR Part 1022, “Compliance with Floodplain/Wetlands Environmental Review Requirements,” and for the purpose of fulfilling DOE’s responsibilities under Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Wetlands Protection*, DOE conducted a floodplain and wetlands assessment (Appendix D-5). These Executive Orders encourage measures to preserve and enhance the natural and beneficial functions of floodplains and wetlands. It also requires Federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and the occupancy and modification of floodplains. Direct and indirect support of floodplain development and the direct and indirect support of new construction in wetlands are to be avoided whenever there is a practicable alternative. Any project in a regulatory floodway must be reviewed to determine if the project would increase flood heights. FEMA has mandated that projects can cause no rise in the regulatory floodway, and a 1-foot cumulative rise for all projects in the base (100-year) floodplain.

According to 10 CFR Part 1022, a floodplain is defined as the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a one percent or greater chance flood in any given year (the “100-year floodplain”). The regulatory floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood discharge can be conveyed without increasing the base flood elevation more than the specified amount.

DOE reviewed the FEMA Flood Insurance Rate Map (FIRM) for the project area (Appendix A – Figure 13). The FIRM indicates that the proposed project location is within the 100-year floodplain and the regulatory floodway of the Walnut River, which includes the majority of the City of El Dorado property. In the vicinity of the proposed project, the 100-year floodplain is approximately 0.5 mile (0.8 kilometer) wide with a majority of the width existing east of the Walnut River. The west bank of the Walnut River rises moderately with the city of El Dorado occupying the higher elevations. Further downstream, the

eastern bank of the Walnut River rises sharply to a bluff, resulting in the floodplain switching to the west bank of the Walnut River. Agricultural cropland exists throughout the majority of the Walnut River 100-year floodplain.

The FIRM shows the Walnut River cross section labeled “AJ” occurring near the proposed turbine site. Floodway data for this cross section show a mean velocity of 3.3 feet per second (1.0 meter per second) and a depth of 1 foot (0.3 meter) within the 100-year floodway. These data suggest a relatively shallow area with a slow velocity during the 1-percent annual chance flood.

Per 10 CFR Part 1022, a wetland is defined as an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

DOE reviewed the USFWS National Wetlands Inventory (NWI) map (<http://www.fws.gov/wetlands/Data/Mapper.html>) for the project area (Appendix A – Figure 12). According to the National Wetlands Inventory map, there are no jurisdictional wetlands in the vicinity of the proposed project. Although no wetlands are identified in the project area, aerial photography shows a slight channel entering the northeastern section of the site at US-77 and flowing southwesterly across the site to the Walnut River. Constructed wetlands and a basin are located in the northern section of the project area and are used by the Wetlands and Water Reclamation Facility as part of the Facility’s water treatment program.

Direct and Indirect Impacts

Short-term direct impacts to the floodplain would result from the temporary disturbance of the area during excavation and trenching activities associated with the construction of the wind turbine tower and/or the installation of electrical service connecting the tower to the Wetlands and Water Reclamation Facility. After completion of excavation, trenching, and installation activities, the affected floodplain areas would be graded, seeded, and restored to their previous condition.

DOE would expect negligible long-term adverse direct or indirect impacts to the beneficial values of the 100-year floodplain, regulatory floodway of the Walnut River, or the constructed wetlands from the proposed project. The City of El Dorado would obtain a No-Rise Certification to ensure the project would not adversely affect floodplains or regulatory floodways. An engineering analysis would be conducted before a certification could be issued and would be kept on file as a No-Rise Certificate. This No-rise Certification would need to be supported by technical data and signed by a registered professional engineer. The supporting technical data should be based on the standard step-backwater computer model used to develop the 100-year floodway shown on the FIRM or Flood Boundary and Floodway Map. The City of El Dorado would complete this process during the design phase of the project. The floodplain manager for the City of El Dorado indicated that, based on the conceptual information available for the proposed project at the Wetlands and Water Reclamation Facility, no adverse effects regarding floodplain issues or the issuance of a No-Rise Certification are anticipated. The survival, quality, and function of the constructed wetlands would be unchanged as documented in the floodplain and wetlands assessment.

3.3 Irreversible and Irrecoverable Commitment of Resources

A commitment of resources is irreversible when its primary or secondary impacts limit the future options for a resource or limit those factors that are renewable only over long periods of time. Examples of nonrenewable resources are minerals, including petroleum. An irretrievable commitment of resources refers to the use or consumption of a resource that is neither renewable nor recoverable for use by future generations. Examples of irretrievable resources are the loss of a recreational use of an area. While an

action may result in the loss of a resource that is irretrievable, the action may be reversible. Irreversible and irretrievable commitments of resources are primarily related to construction activities.

These resource impacts are considered impacts to non-renewable resources. For the proposed project, most resource commitments are neither irreversible nor irretrievable and are considered short-term and temporary.

Specifically, resources consumed during construction of the project, including labor, fossil fuels and construction materials, would be committed for the life of the project. Nonrenewable fossil fuels would be irretrievably lost through the use of gasoline and diesel powered construction equipment during construction. The expenditure of ARRA funding from DOE would also be irreversible.

3.4 Unavoidable Adverse Impacts

Unavoidable adverse impacts associated with the proposed project include:

- Long-term loss of less than one acre (0.4 hectare) of land within the 100-year floodplain/floodway of the Walnut River resulting from the construction of the tower foundation;
- An increase in noise levels during construction and operation;
- Introduction of a dominant vertical feature into the existing landscape; and,
- Minimal shadow flicker impacts for up to five residential receptors.

These impacts would be temporary, in the case of the construction noise, and long-term in regard to the loss of vegetation, visual and shadow flicker impacts, and the risk of tower collapse. Overall, impacts from the proposed project on the environment and human health are minimal, as described in the relevant sections above.

3.5 The Relationship Between Local Short-Term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

Less than one acre (0.4 hectare) of land would be committed during the functional life of the project. “Short-term use” of the environment, is considered the life of the project, whereas “long-term productivity” refers to the period of time after the project has been decommissioned, the equipment removed, and the land reclaimed and stabilized. The short-term use of the project area would not affect the long-term productivity of the area. If it is decided at some time in the future that the project has reached its useful life, the turbine, tower, and foundation could be decommissioned and the site reclaimed and revegetated to resemble the pre-disturbance conditions. The installation of a wind turbine at this site would not preclude using the land for purposes that were suitable prior to this project.

4. CUMULATIVE IMPACTS

Cumulative impacts are those potential environmental impacts that result “from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

4.1 Past, Present, and Reasonably Foreseeable Actions

DOE reviewed information on past, present, and reasonably foreseeable future projects and actions that could result in impacts to a particular resource over the same period and in the same general location as the proposed project. To determine cumulative impacts from past, existing, and reasonably foreseeable projects, DOE conducted online research and consulted with the El Dorado Planning Department and El Dorado Chamber of Commerce to determine current and future development projects in proximity to the El Dorado wind turbine location. No pending or planned projects were identified within the area for possible impacts related to land use, visual, or noise. Additionally, no past projects were identified that could have a cumulative impact when combined with the impacts of the proposed project. While the proposed turbine shares the same general project area as the relatively new Wetlands and Water Reclamation Facility, cumulative impacts remain negligible. Land use is the primary resource area where the two projects share the potential for impacts. Development of the Facility impacted approximately 140 acres (56.6 hectares) of land with industrial infrastructure. The proposed turbine would affect less than one acre (0.4 hectare) of adjacent land. The impacts associated with the turbine installation are also more readily reversible, such that the proposed project area could be more easily returned to its prior use.

As the initial step in addressing cumulative impacts to biological resources (i.e., migratory birds, and threatened and endangered species), DOE attempted to identify wind energy projects that are within a 30-mile (48 kilometer) radius of the proposed project site. The 30-mile (48 kilometers) radius was determined based on an area that would capture known avian migration corridors (Central Flyway) and known eagle nest sites. To date, only three Kansas ARRA Renewable Energy Incentive Grant projects have been approved, and include ground source heat pumps in Dodge City, Cloud County, and a photovoltaic project in Johnson County. Four other ground source heat pump projects, four other wind energy projects, and one other photovoltaic project is pending approval. The closest of the wind energy projects with respect to the El Dorado site includes a project at Kansas State University, Manhattan, Riley County, over 90 miles (145 kilometers) from the El Dorado site (Appendix A – Figure 14).

A number of other existing and proposed wind energy projects within the state of Kansas were also evaluated with respect to proximity to the El Dorado site. The Kansas Energy Information Network reports over 59 existing small wind energy projects in the state, ranging in size from 1 kilowatt to 200 kilowatts. The Kansas Energy Information Network also identified larger projects that are under construction, proposed, operating, no longer operating, or have an unknown status (Appendix A – Figure 15). These projects range in size from 30 megawatts to 800 megawatts. Within a 30-mile (48 kilometer) radius of the proposed El Dorado site, one facility was identified as operational (Elk River) and one project was identified as “Status Unknown.” The Elk River Project is a 150-megawatt facility with 100 1.5-megawatt turbines operated by Empire District Electric Company, and is located approximately 21 miles (34 kilometers) southeast of the proposed project area. The “Status Unknown” project is the Leon Wind Energy Project with 50 to 80 proposed turbines, which was initiated in 2002 for an area approximately 3 miles (4.8 kilometers) south of the town of Leon and approximately 10 miles (16 kilometers) southeast of El Dorado. The Leon Project was denied by the Butler County Commission, but a lawsuit was filed to challenge the decision. Currently, the Leon Project appears to be no longer viable.

Relationship Between Local Short-Term Uses of Environment and the Maintenance and Enhancement of Long-Term Productivity

Short-term use is considered the lifespan of the project, whereas long-term productivity refers to the period of time after the project has been decommissioned, the equipment removed, and the land reclaimed and stabilized. The short-term use of the project area for the proposed project would not affect the long-term productivity of the area. If it is decided at some time in the future that the project has reached its useful life, the turbine, tower, and foundation could be decommissioned and removed, and the site reclaimed and revegetated to resemble a similar habitat to the pre-disturbance conditions. The installation of a wind turbine at this site would not preclude using the land for purposes that were suitable prior to this project.

4.2 Summary of Cumulative Impacts

4.2.1 Climate Change and Greenhouse Gas

While the scientific understanding of climate change continues to evolve, the Intergovernmental Panel on Climate Change *Fourth Assessment Report* has stated that warming of the earth's climate is unequivocal, and that warming is very likely attributable to increases in atmospheric greenhouse gases caused by human activities (anthropogenic) (IPCC 2007). The Panel's *Fourth Assessment Report* indicates that changes in many physical and biological systems, such as increases in global temperatures, more frequent heat waves, rising sea levels, coastal flooding, loss of wildlife habitat, spread of infectious disease, and other potential environmental impacts are linked to changes in the climate system, and that some changes may be irreversible (IPCC 2007).

The release of anthropogenic GHGs and their potential contribution to global warming are inherently cumulative phenomena. It is assumed that this wind energy project would displace fossil fuel electricity currently used by the El Dorado Wetlands and Water Reclamation Facility, resulting in a net decrease in emissions of approximately 2,017 metric tons of carbon dioxide equivalents for each year of operation. The proposed project would neither reduce the concentration of GHGs in the atmosphere nor reduce the annual rate of GHG emissions. Rather, it would marginally decrease the rate at which GHG emissions are increasing every year and contribute to efforts ongoing globally to reduce GHG and slow climate change.

4.2.2 Visual Resources

The proposed project would affect the viewshed in the project area. The turbine would be a dominant vertical feature in the landscape due to its height, but would not obstruct views in the way that a large building might. Several other vertical elements currently exist in the vicinity of the project site, including high-voltage transmission line towers and the flare stacks associated with the refinery located to the west of the project area. These existing vertical elements and the distance to potential receptors would lessen the visual impact of the project. No other turbines, or other projects with large vertical elements, are proposed within the viewshed of the proposed project. Therefore, there would be minimal cumulative visual impacts from the proposed project.

4.2.3 Biological Resources

All of the reasonably foreseeable wind energy projects discussed above are spread out over long distances in the state of Kansas, and the anticipated potential to result in a cumulative impact to avian or bat species is low.

None of these projects, when looked at in groups, or all together, would present significant cumulative impacts to visual or biological resources because of the sufficient distance between projects; therefore, cumulative impacts would be negligible. Given the rural setting of the proposed project, there are no other potential cumulative impacts on the environment that are reasonably foreseeable.

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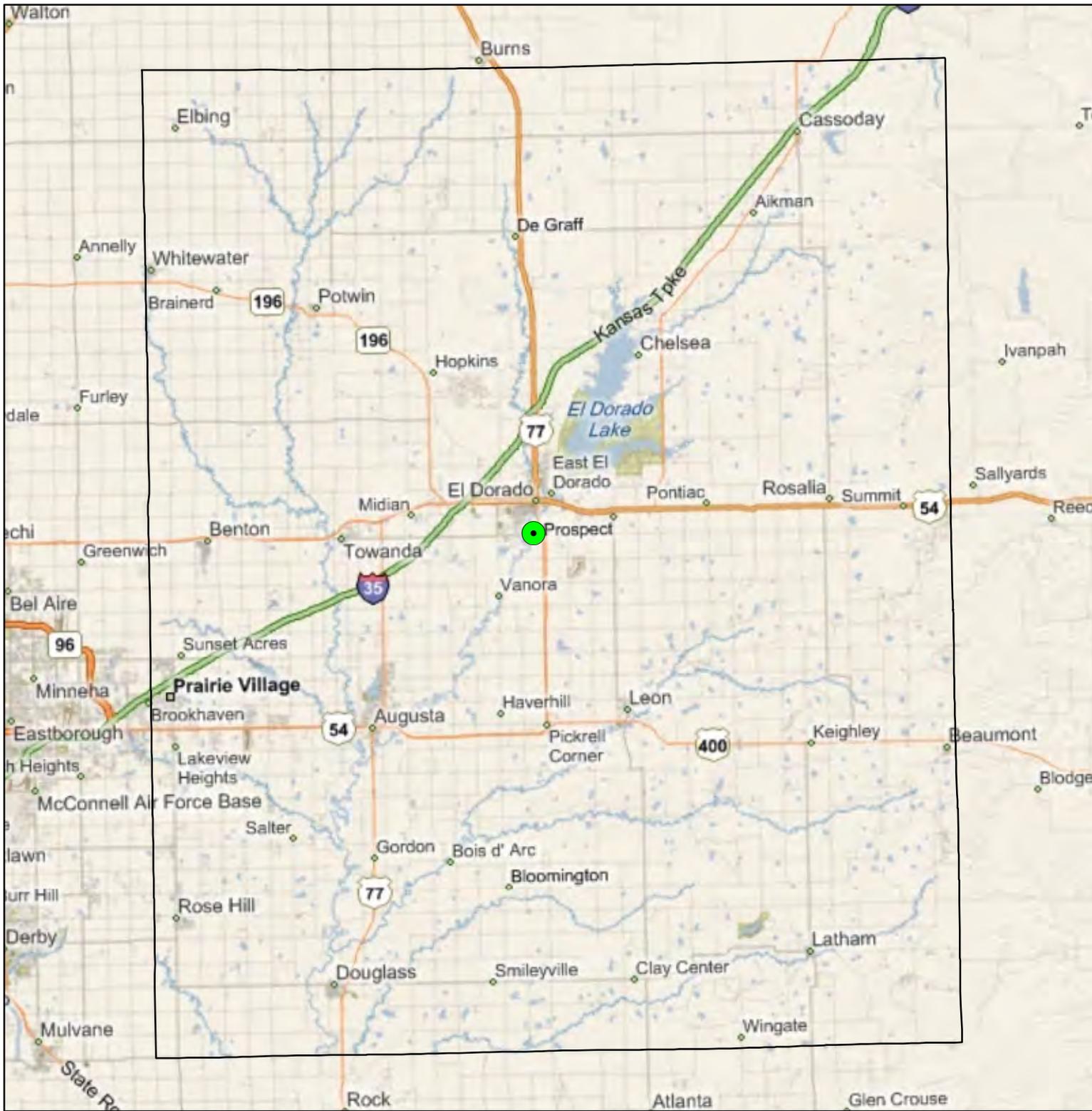
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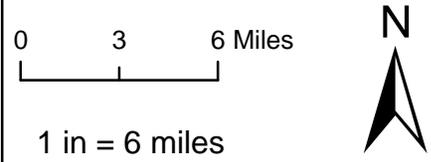
APPENDICES

Appendix A: Figures



Legend

● Proposed Turbine Site



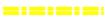
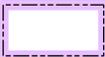
El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 1
Site Vicinity Map



Legend

-  Proposed Turbine Site
-  Proposed Access Road
-  Property Boundary

0 750 1,500 Feet

1 in = 1,500 feet



El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 2 **Project Location** **on Aerial Photograph**

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- Proposed Turbine Site
- - - - - Proposed Access Road
- Property Boundary

0 250 500 Feet

1 in = 500 feet



El Dorado Wetlands and
Water Reclamation Facility

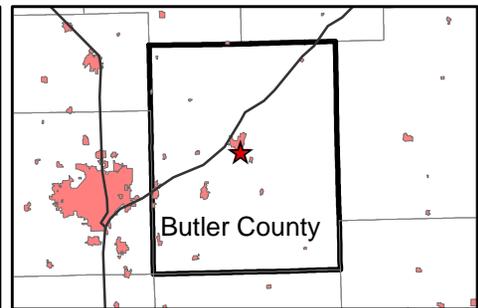
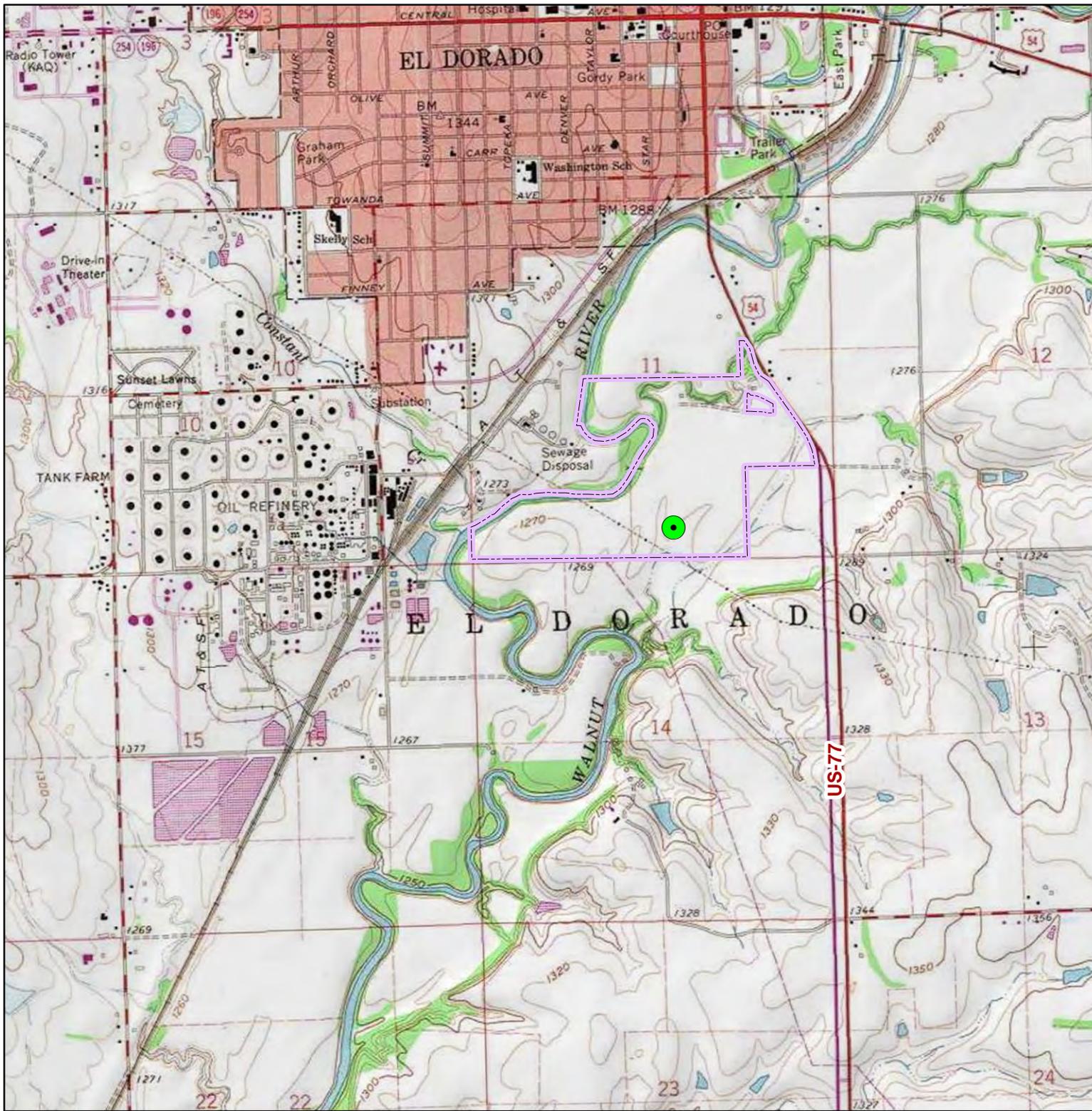
Wind Energy Project

FIGURE 3 **Project Location on** **Aerial Photograph - Detail**

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

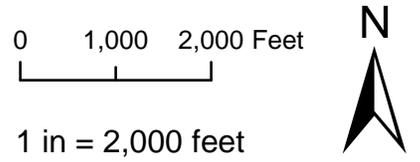
URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- Proposed Turbine Site
- Property Boundary

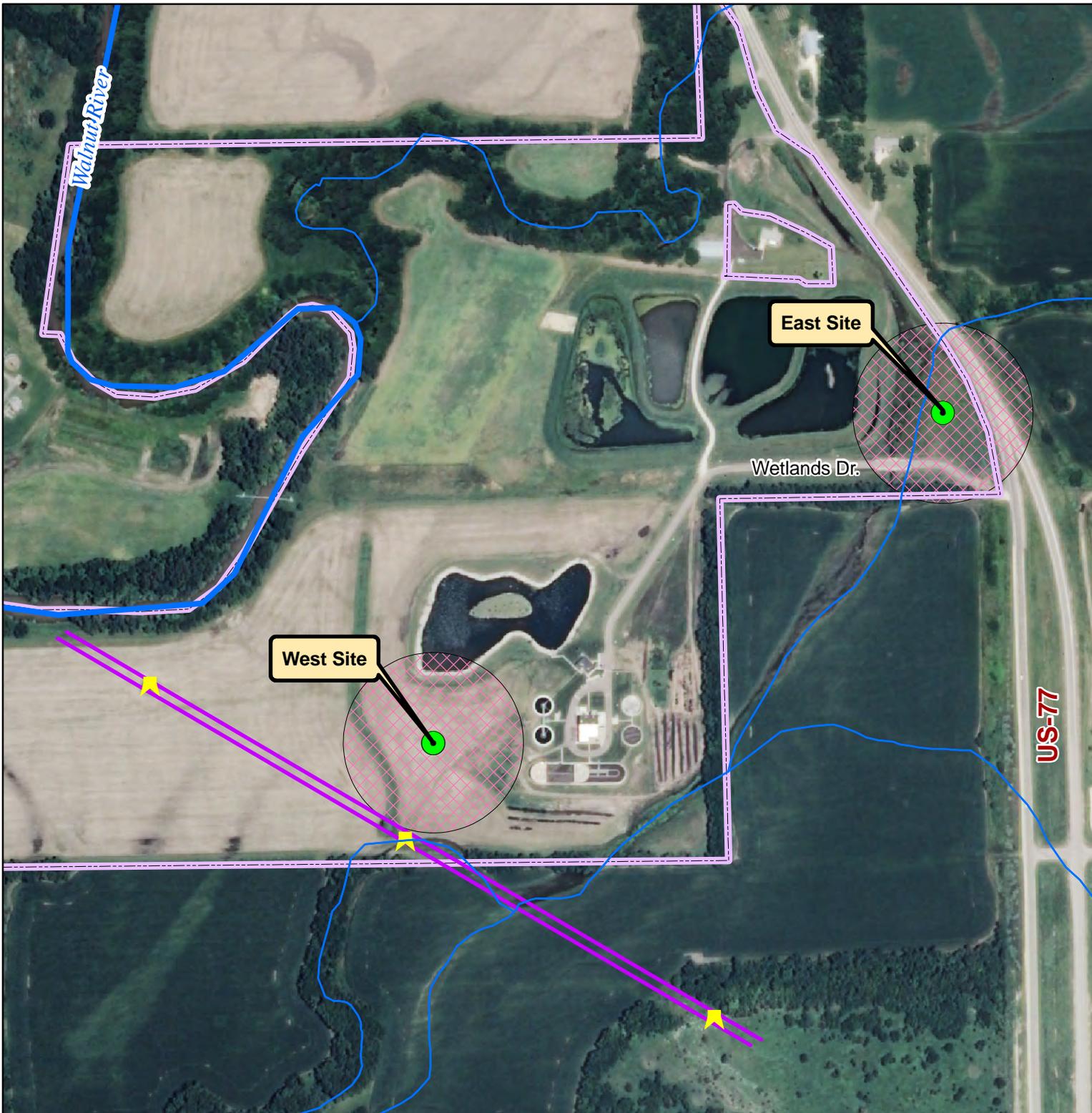


El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 4 Project Location on USGS Map

El Dorado, Kansas USGS Quadrangle



Legend

-  Streams
-  Proposed Turbine Site
-  Transmission Towers
-  Powerline
-  Property Boundary
-  330' Radius from Proposed Turbine Site

0 250 500 Feet

1 in = 500 feet



El Dorado Wetlands and
Water Reclamation Facility

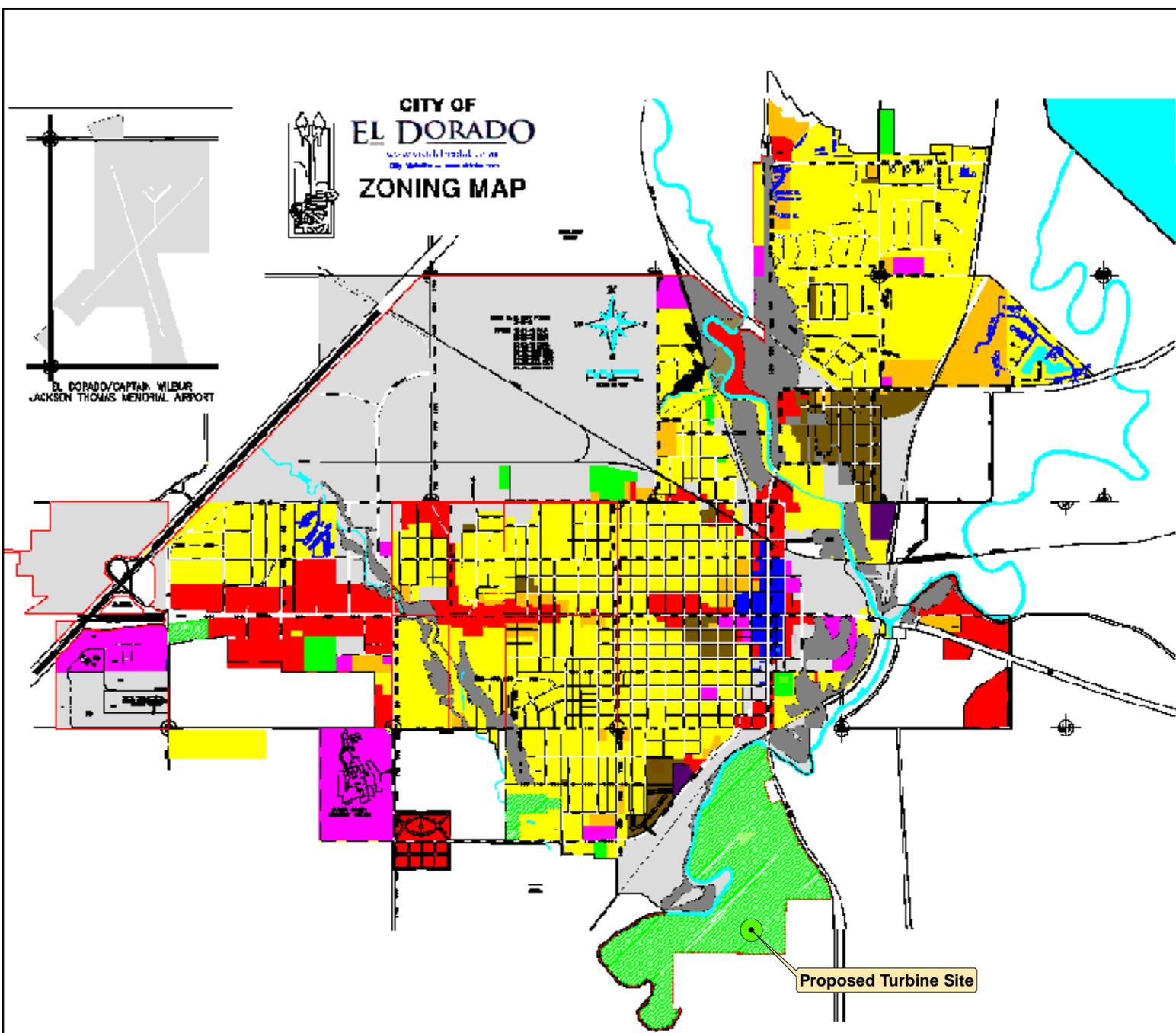
Wind Energy Project

FIGURE 5 Alternate Turbine Locations

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography



8300 College Boulevard, Suite 200
Overland Park, KS 66210



CITY OF EL DORADO
www.cityofeldorado.com
ZONING MAP

Legend

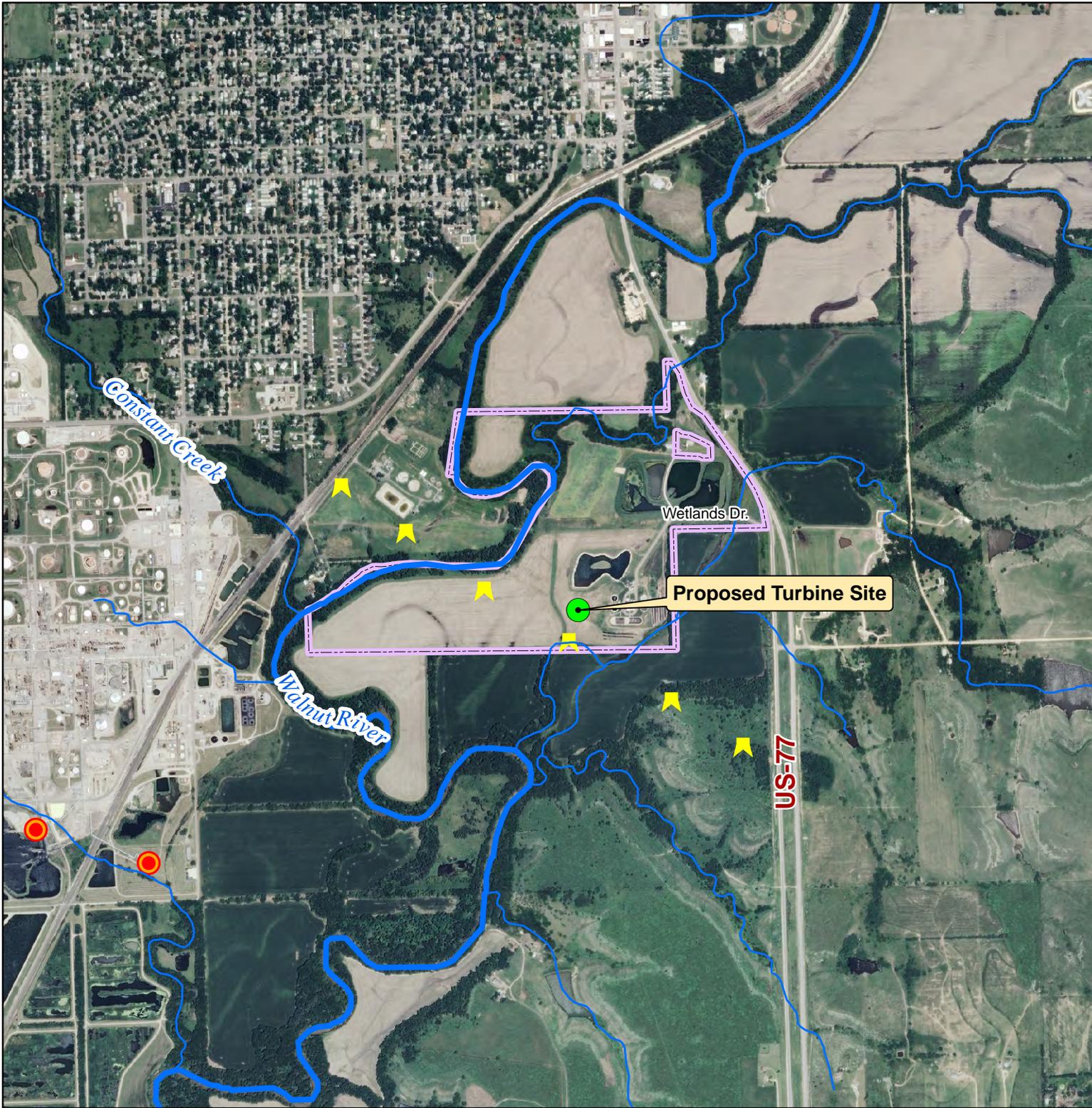
- Zoning Districts**
- R-S RESIDENTIAL SUBURBAN DISTRICT
 - R-1 RESIDENTIAL-LOW DENSITY DISTRICT
 - R-2 RESIDENTIAL-MEDIUM DENSITY DISTRICT
 - R-3 MULTIPLE FAMILY DWELLING DISTRICT
 - M-P MANUFACTURED HOME PARK DISTRICT
 - C-1 GENERAL BUSINESS DISTRICT
 - C-2 CENTRAL BUSINESS DISTRICT
 - O-1 BUSINESS-OFFICE-INSTITUTIONAL DISTRICT
 - L-1 LIGHT INDUSTRIAL DISTRICT
 - L-2 HEAVY INDUSTRIAL DISTRICT
 - AG AGRICULTURAL
 - 100-Year Flood Boundary
 - Proposed Turbine Site



El Dorado Wetlands and Water Reclamation Facility

Wind Energy Project

FIGURE 6
City of El Dorado
Zoning Map



Legend

-  Streams
-  Proposed Turbine Site
-  Flare Stacks
-  Transmission Towers
-  Property Boundary

0 750 1,500 Feet
 1 in = 1,500 feet



El Dorado Wetlands and
 Water Reclamation Facility

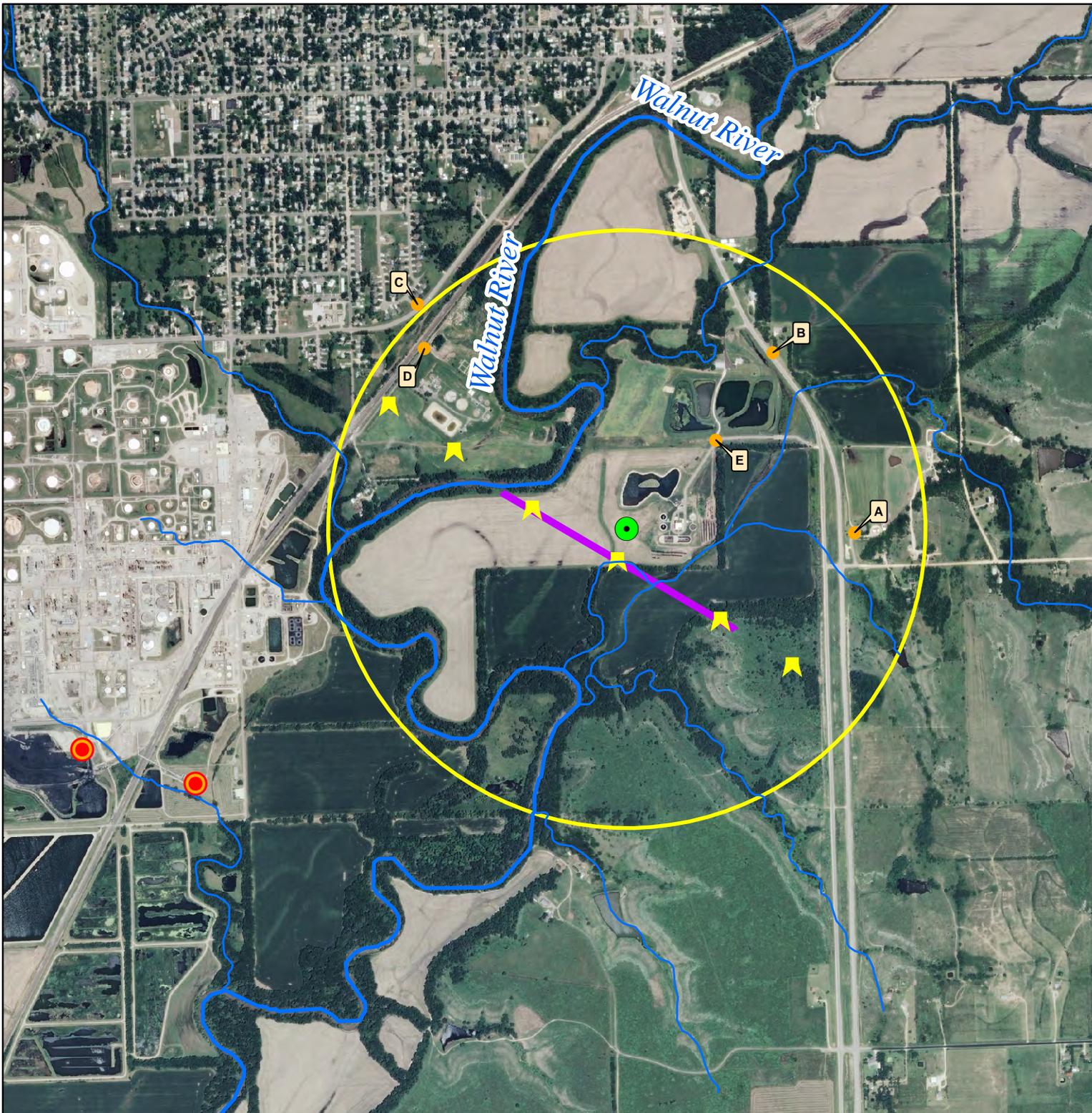
Wind Energy Project

FIGURE 7 Vertical Elements in the Vicinity

2010 National Agriculture Imagery Program
 (NAIP) Aerial Photography



8300 College Boulevard, Suite 200
 Overland Park, KS 66210



Legend

-  Flare Stack
-  Photo Locations
-  Streams
-  Proposed Turbine Site
-  Transmission Towers
-  Powerline
-  1000 Meter Radius from Proposed Turbine Site

0 750 1,500 Feet

1 in = 1,500 feet



El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 8 **Visual Simulation** **Photograph Locations**

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

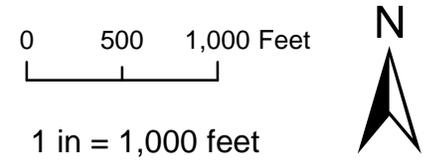
URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- Proposed Turbine Site
- Receptor
- 1000 Meter Radius from Proposed Turbine Site



El Dorado Wetlands and Water Reclamation Facility

Wind Energy Project

FIGURE 9 Potential Receptors

2010 National Agriculture Imagery Program (NAIP) Aerial Photography



Legend

Distance & Noise Level

- 4096 ft. (32 dBA)
- 2048 ft. (38 dBA)
- 1024 ft. (44 dBA)
- 512 ft. (50 dBA)
- 256 ft. (56 dBA)
- 128 ft. (62 dBA)
- 64 ft. (68 dBA)

● Receptor

0 500 1,000 Feet



1 in = 1,000 feet



El Dorado Wetlands and
Water Reclamation Facility

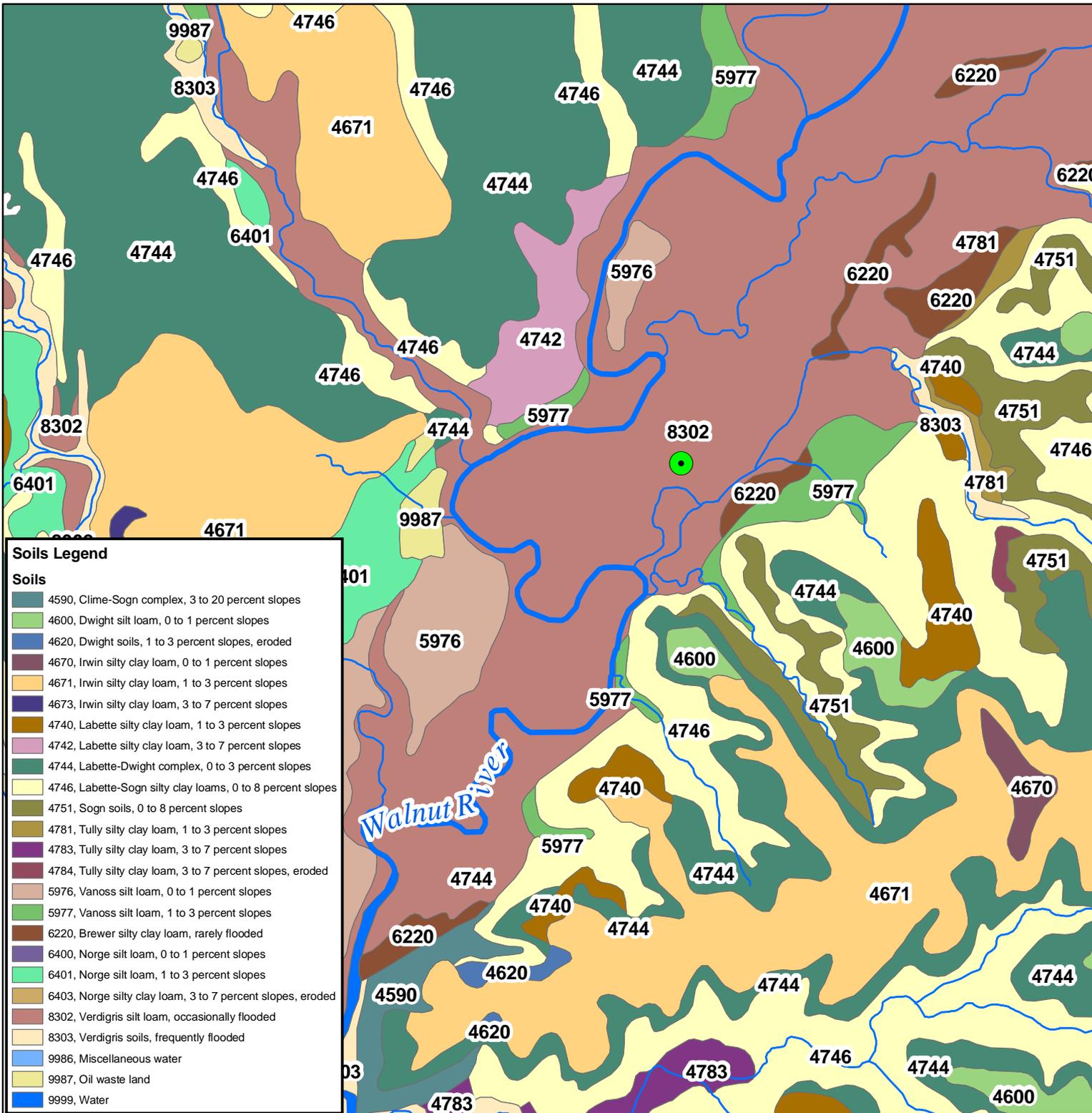
Wind Energy Project

FIGURE 10
Turbine Noise
Attenuation Map

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography



8300 College Boulevard, Suite 200
Overland Park, KS 66210



Soils Legend

Soils

4590, Clime-Sogn complex, 3 to 20 percent slopes
4600, Dwight silt loam, 0 to 1 percent slopes
4620, Dwight soils, 1 to 3 percent slopes, eroded
4670, Irwin silty clay loam, 0 to 1 percent slopes
4671, Irwin silty clay loam, 1 to 3 percent slopes
4673, Irwin silty clay loam, 3 to 7 percent slopes
4740, Labette silty clay loam, 1 to 3 percent slopes
4742, Labette silty clay loam, 3 to 7 percent slopes
4744, Labette-Dwight complex, 0 to 3 percent slopes
4746, Labette-Sogn silty clay loams, 0 to 8 percent slopes
4751, Sogn soils, 0 to 8 percent slopes
4781, Tully silty clay loam, 1 to 3 percent slopes
4783, Tully silty clay loam, 3 to 7 percent slopes
4784, Tully silty clay loam, 3 to 7 percent slopes, eroded
5976, Vanoss silt loam, 0 to 1 percent slopes
5977, Vanoss silt loam, 1 to 3 percent slopes
6220, Brewer silty clay loam, rarely flooded
6400, Norge silt loam, 0 to 1 percent slopes
6401, Norge silt loam, 1 to 3 percent slopes
6403, Norge silty clay loam, 3 to 7 percent slopes, eroded
8302, Verdigris silt loam, occasionally flooded
8303, Verdigris soils, frequently flooded
9986, Miscellaneous water
9987, Oil waste land
9999, Water

Legend

-  Streams
-  Proposed Turbine Site

0 1,000 2,000 Feet

1 in = 2,000 feet



El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 11
USDA NRCS Soils Map

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

-  Streams
-  Proposed Turbine Site
-  Property Boundary
-  Constructed Wetland
-  Wetlands

0 500 1,000 Feet

1 in = 1,000 feet



El Dorado Wetlands and
Water Reclamation Facility

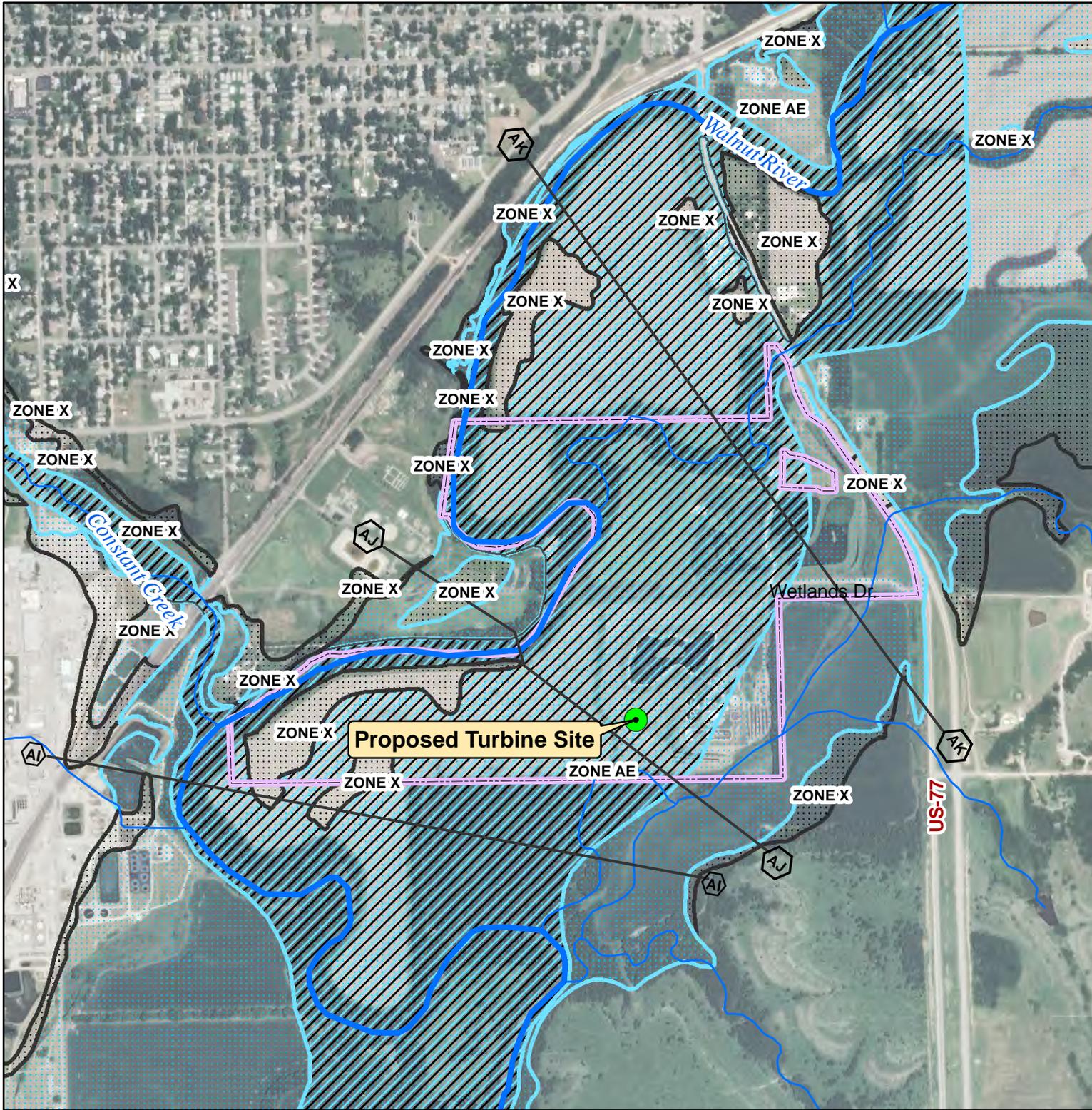
Wind Energy Project

FIGURE 12 Project Location on USFWS NWI Map

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- Proposed Turbine Site
- Streams
- Property Boundary
- ZONE X (500-yr. Flood)
- ZONE AE (100-yr. Flood)
- FLOODWAY
- FEMA Cross Sections

0 500 1,000 Feet

1 in = 1,000 feet



El Dorado Wetlands and Water Reclamation Facility

Wind Energy Project

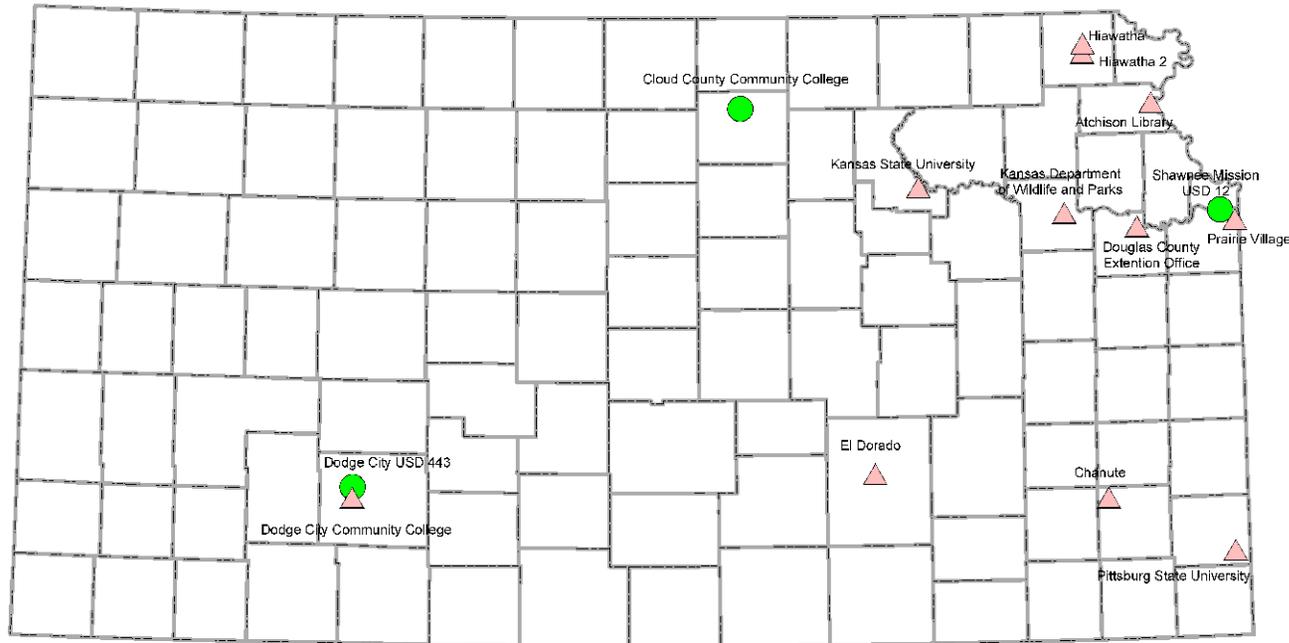
FIGURE 13 Project Location on FEMA FIRM Map

2010 National Agriculture Imagery Program (NAIP) Aerial Photography



8300 College Boulevard, Suite 200
Overland Park, KS 66210

Renewable Energy Incentives Grants



Renewable Incentives

- Approved
- ▲ Pending approval

Atchison Library	\$81,155.00	GSHP
Chanute	\$200,000.00	GSHP
Cloud County Community College	\$250,000.00	GSHP
Dodge City USD 443	\$212,500.00	GSHP
Dodge City Community College	\$126,875.00	GSHP
El Dorado	\$250,000.00	Turbines
Hiawatha	\$122,614.00	Turbines
Hiawatha 2	\$44,737.00	Turbines
Douglas County Extension Office	\$7,250.00	PV
Kansas State University	\$156,349.00	Turbines
Pittsburg State University	\$250,000.00	GSHP
Prairie Village	\$250,000.00	GSHP
Shawnee Mission USD 12	\$208,000.00	PV
Kansas Department of Wildlife and Park	\$250,000.00	Turbines

GSHP = Ground-source heat pump
PV = Photovoltaic



These grants, funded by the Recovery Act, promote the use of renewable energy in the public sector by offering up to \$250,000 towards costs of developing, implementing, and installing a wind, solar, biomass, geothermal, or hydropower project.



El Dorado Wetlands and Water Reclamation Facility

Wind Energy Project

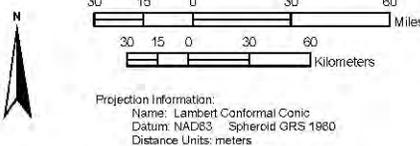
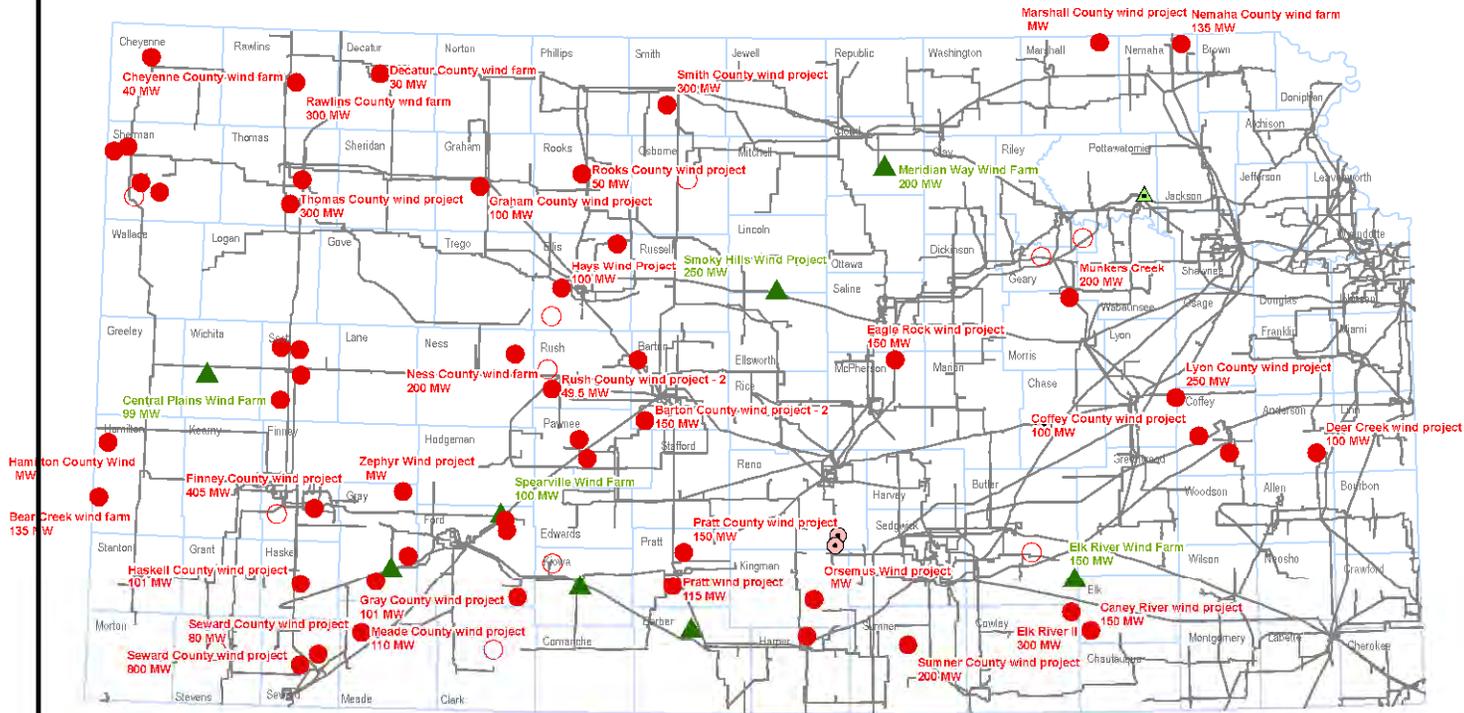
FIGURE 14
Renewable Energy
Incentive Grant Projects



8300 College Boulevard, Suite 200
Overland Park, KS 66210

Proposed and Existing Wind Projects in Kansas

July 2010



- Legend**
- ▲ Operating
 - Under Construction
 - Proposed
 - Status Unknown
 - ▲ No longer operating

For more information on individual wind projects, go to the Kansas Energy Information Network - Wind Projects page: www.KansasEnergy.org/wind_projects.htm



Electrical Transmission Lines also shown



El Dorado Wetlands and Water Reclamation Facility

Wind Energy Project

FIGURE 15
Proposed and Existing Wind Energy Projects in Kansas

APPENDIX B: SITE PHOTOGRAPHIC LOG/ VISUAL SIMULATION

Note: A number of historical aerial photographs of the property can be found in Appendix D-7: EDR Reports.

Attachment B-1: El Dorado Photographic Log

PHOTOGRAPHIC LOG

Project Locations: El Dorado, Kansas		Project: City of El Dorado Wind Energy Project	DOE/EA 1833D
Photo No. 1	Date: 9/3/10		
Direction Photo Taken: West			
Description: View facing west from near proposed project location.			

Photo No. 2	Date: 9/3/10		
Direction Photo Taken: North			
Description: View facing north from near proposed project location.			

PHOTOGRAPHIC LOG

Project Locations: El Dorado, Kansas		Project: City of El Dorado Wind Energy Project	DOE/EA 1833D
Photo No. 3	Date: 9/3/10		
Direction Photo Taken: East			
Description: View facing east from near proposed project location.			

Photo No. 4	Date: 9/3/10		
Direction Photo Taken: South			
Description: View facing south from near proposed project location.			

Attachment B-2: Visual Simulation

PHOTOGRAPH SIMULATION

EL DORADO WETLANDS and WATER RECLAMATION FACILITY – WIND ENERGY PROJECT

Project No.

DOE/EA-1833D

Photo No.: A

Date Taken: 9/29/10

Direction Photo Taken: West

Description:

Looking west from a residential driveway adjacent to US-77, approximately 1,250 feet (381 meters) east of the turbine. Turbine visible, foundation and tower partially shielded by trees.



PHOTOGRAPH SIMULATION

EL DORADO WETLANDS and WATER RECLAMATION FACILITY – WIND ENERGY PROJECT

Project No.

DOE/EA-1833D

Photo No.: B

Date Taken: 9/29/10

Direction Photo Taken: Southwest

Description:

Looking southwest from a residential driveway adjacent to US-77, approximately 1,250 feet (381 meters) northeast of the turbine. Turbine visible, foundation and tower base partially shielded by trees/vegetation.



PHOTOGRAPH SIMULATION

EL DORADO WETLANDS and WATER RECLAMATION FACILITY – WIND ENERGY PROJECT

Project No.

DOE/EA-1833D

Photo No.: C

Date Taken: 9/29/10

Direction Photo Taken: Southeast

Description:

Looking southeast from the intersection of SW Terrace and SW Traffic Way, at the entrance to a residential subdivision, approximately 1,700 feet (518 meters) northwest of the turbine. Turbine not visible, tower and rotor shielded by trees/vegetation.



PHOTOGRAPH SIMULATION

EL DORADO WETLANDS and WATER RECLAMATION FACILITY – WIND ENERGY PROJECT

Project No.

DOE/EA-1833D

Photo No.:

D

Date Taken:

9/29/10

Direction Photo Taken:

Southeast

Description:

Looking southeast from the former wastewater treatment plant driveway near the railroad tracks, approximately 1,500 feet (457 meters) northwest of the turbine. Turbine visible, foundation and tower partially shielded by trees.



PHOTOGRAPH SIMULATION

EL DORADO WETLANDS and WATER RECLAMATION FACILITY – WIND ENERGY PROJECT

Project No.

DOE/EA-1833D

Photo No.: E

Date Taken: 9/29/10

Direction Photo Taken: Southwest

Description:

Looking southwest from the Wetlands and Water Reclamation Facility driveway, approximately 700 feet (213 meters) northeast of the turbine. Turbine visible, foundation and tower partially shielded by vegetation.



APPENDIX C: AGENCY COORDINATION

Attachment C-1: Kansas State Historical Society



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 23, 2010

Patrick Zollner
Deputy SHPO
Kansas State Historical Society
6425 SW 6th Avenue
Topeka, KS 66615-1099

SUBJECT: El Dorado Wind Turbine Project, Butler County, Kansas
KSR&C No. 10-05-100

Dear Mr. Zollner:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77. The proposed wind energy project would provide electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant. The approximate center point of the proposed wind turbine, near the western slope of the landfill, would be Latitude and Longitude, 37° 47' 49" N and 96° 51' 04" W.

It is estimated that the proposed turbine would consist of a 230 foot (70 meter) tower and a 194 foot (59 meter) diameter rotor for a total turbine height of approximately 330 feet (100 meters) above ground level. DOE has considered a 0.5 mile (0.8 kilometers) radius Area of Potential Effects (APE) from the base of the proposed site. The proposed turbine location will be surrounded immediately by agricultural cropland and the water treatment facility. A large commercial refinery facility is located approximately 0.75 miles (1.2 kilometers) to the west of the site. The southern edge of residential development in the city of El Dorado is located approximately 0.75 miles (1.2 kilometers) to the northwest of the site. The areas to the north, east and south are predominantly agricultural with scattered rural residential structures within one mile of the site.

A review of existing information was conducted to identify any known historic and/or archaeological resources that may be affected by the proposed undertaking. An "Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant" was completed on June 8, 2005 by the Wichita State University Department of Anthropology during the initial construction of the water treatment facility (KSR&C No. 10-05-100). The area within which the proposed turbine would be installed was evaluated as part of that survey. The report identified three new archeological sites and two previously recorded sites, all of which were located on the western portion of the property near the east bank of the Walnut River. The report did not identify any cultural resources in the area of the proposed wind turbine site.

Three properties in El Dorado are listed in the National Register of Historic Places (NRHP). The James T. Oldham house (NPS # 06001054) at 321 South Denver Street is the closest NRHP listed property, and is located approximately 1.25 miles (2 kilometers) north of the proposed site. There are two residential



structures, which are less than fifty years of age, located within 0.5 miles (0.8 kilometers) of the proposed site. DOE has determined that the proposed project would have no effect on NRHP listed or eligible properties.

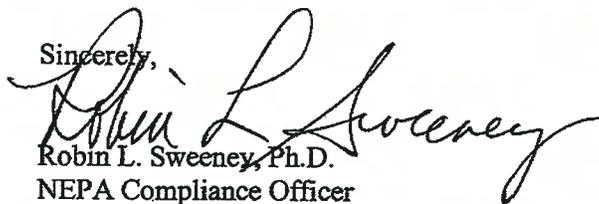
Based on these analyses, DOE has determined that no historic buildings, structures, districts, objects, or archaeological resources would be affected by the proposed project pursuant to Section 106 of the National Historic Preservation Act and 36 CFR Part 800. In compliance with 36 CFR Part 800.4(d)(1), the Department of Energy asks the KSHS for its concurrence in this finding.

The KSHS has previously reviewed this project at the request of El Dorado. In a letter to the KCC dated June 17, 2010 the KSHS determined that the proposed project "should have no effect on properties listed in the National Register of Historic Places or otherwise identified" in their files. **Unless KSHP determines an additional response is warranted, DOE will utilize the June 17, 2010 no effect determination issued to the KCC as documentation of the department's compliance with Section 106 of the NHPA.**

DOE's Golden Office is preparing a draft Environmental Assessment (EA) for this project. DOE will include correspondence with your office in an appendix to the EA. The draft EA will be posted in the DOE Golden Field Office online reading room: http://www.eere.energy.gov/golden/reading_room.aspx. DOE will send a Notice of Availability for the draft EA, when available, to your office and respond to any specific comments you may have. Please contact DOE if you would like to receive a hardcopy(s) of the draft EA. At this time we anticipate a 15-day public comment period for this proposed project.

Please forward the results of your review and any requests for additional information to Ms. Amy VanDercook, as soon as possible, at the following:

*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doc.gov*

Sincerely,

Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments:

Figure 1 – Facility location on aerial image
Figure 2 – Close-up of proposed project area
Figure 3 – Project location on topographic map
KSHP No Affect Determination (June 17, 2010)

FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location

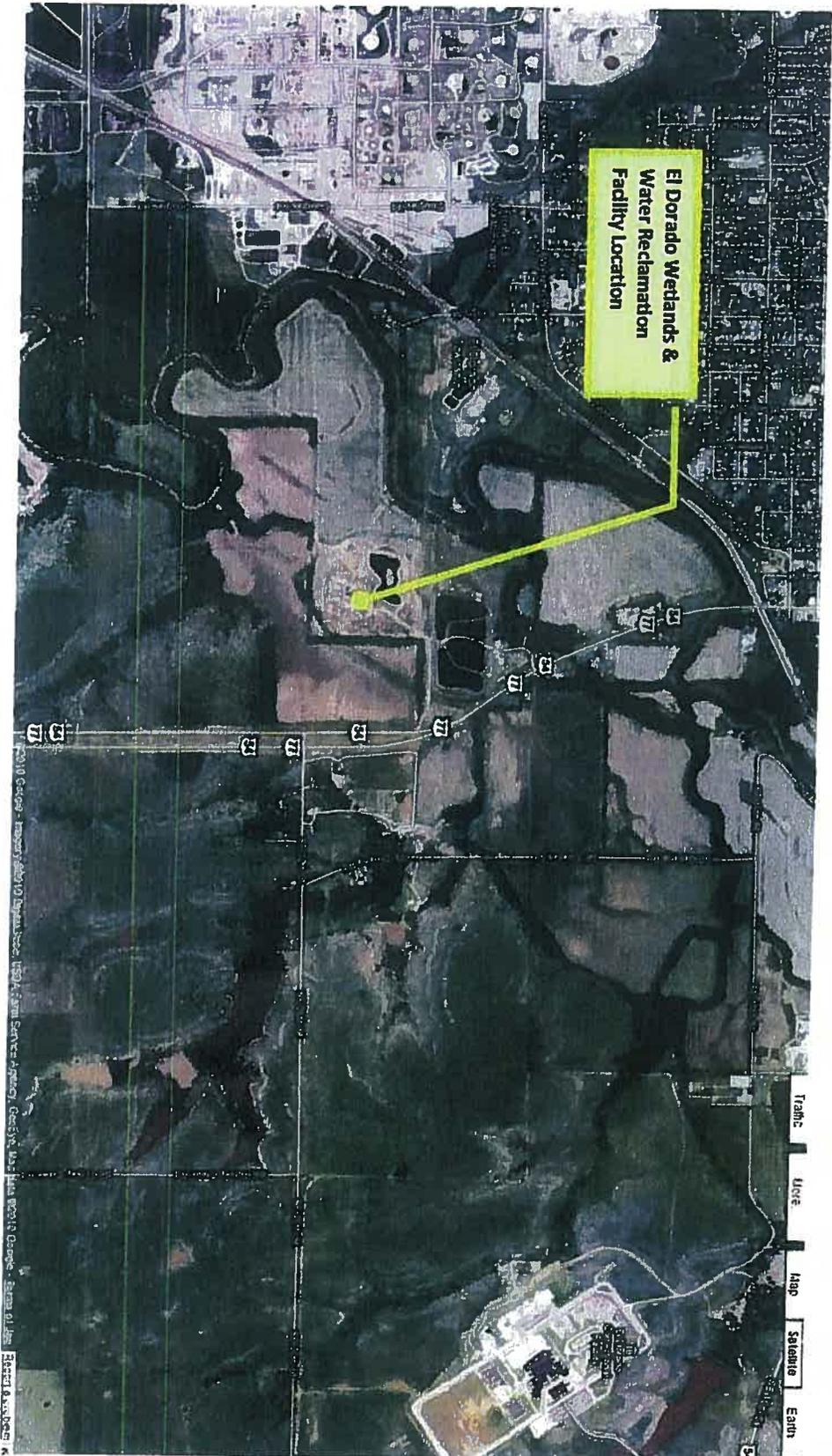
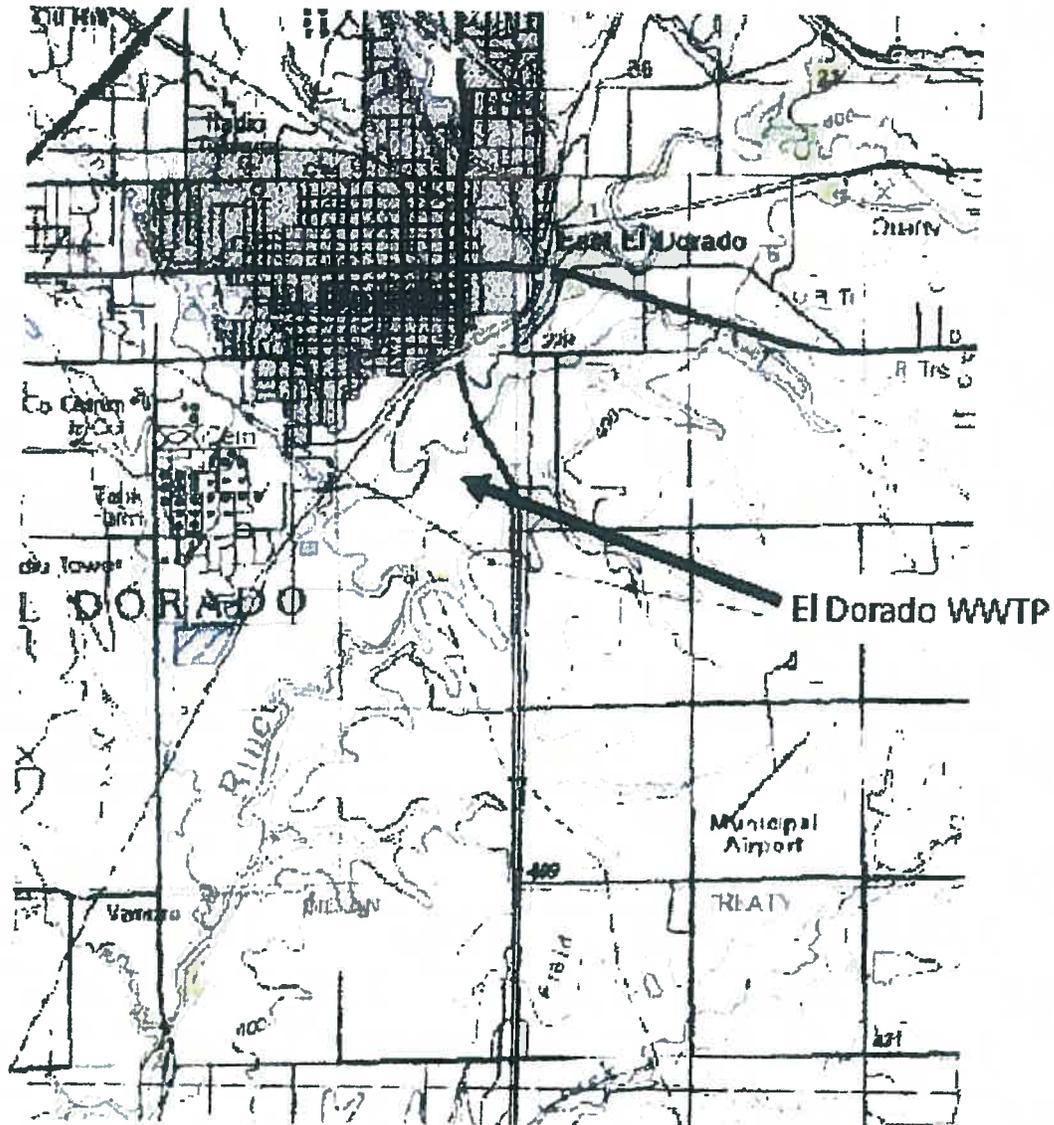


FIGURE 2
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Proposed Turbine Location



● suggested location
■ Available location

Figure 3
El Dorado Wetlands & Water Reclamation Wind Turbine Project
Facility Location - USGS Topographic Map



KANSAS

KSR&C No. 10-06-100

Kansas Historical Society
Cultural Resources Division

MARK PARKINSON, GOVERNOR

June 17, 2010

State

JUN 21 2010

Energy Office

Terry Steuber
State Energy Office
Kansas Corporation Commission
1300 SW Arrowhead Road, Suite 100
Topeka KS 66604-4074

RE: Two Wind Turbine Sites
City of El Dorado
Butler County

Dear Mr. Steuber:

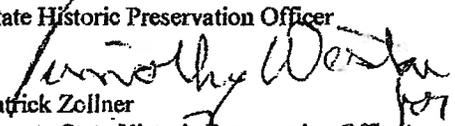
The Kansas State Historic Preservation Office has reviewed its cultural resources files for the area of the above referenced project in accordance with 36 CFR 800. The project as proposed should have no effect on properties listed in the National Register of Historic Places or otherwise identified in our files. This office has no objection to implementation of the project.

Any changes to the project area that include additional ground disturbing activities will need to be reviewed by this office prior to beginning construction. If construction work uncovers buried archaeological materials, work should cease in the area of the discovery and this office should be notified immediately.

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

Sincerely,

Jennie Chinn
State Historic Preservation Officer


Patrick Zollner
Deputy State Historic Preservation Officer

Attachment C-2: Federal Aviation Administration

From: Van Dercook, Amy [amy.vandercook@go.doe.gov]
Sent: Wednesday, January 19, 2011 9:09 AM
To: Ferro, James
Subject: FW: El Dorado, KS Wind Project - Aeronautical Study No. 2010-WTE-13130-OE

Please see below for EA and Admin Record.

Thanks,
Amy

-----Original Message-----

From: Sarah.A.Combs@faa.gov [mailto:Sarah.A.Combs@faa.gov]
Sent: Wednesday, January 19, 2011 5:42 AM
To: Van Dercook, Amy
Subject: Re: El Dorado, KS Wind Project - Aeronautical Study No. 2010-WTE-13130-OE
Importance: High

Ms. Van Dercook,

There were no petitions filed for Aeronautical Study Number 2010-WTE-13130-OE. This determination became final on January 10, 2011.

Thank you,
Sarah A. Combs
Airspace Documentation Specialist
Federal Aviation Administration
800 Independence Ave. SW
Washington, D.C. 20591
Direct Line: (202) 267-3571
Fax: (202) 267-9328
Email: Sarah.A.Combs@faa.gov

From: "Van Dercook, Amy" <amy.vandercook@go.doe.gov>
To: Sarah A Combs/AWA/FAA@FAA
Date: 01/14/2011 03:49 PM
Subject: El Dorado, KS Wind Project - Aeronautical Study No. 2010-WTE-13130-OE

Dear Ms. Combs:

Attached is the information for the wind power project Aeronautical Study No. 2010-WTE-13130-OE in El Dorado, Kansas. According to your office, no petitions were filed for the project. Please respond via email or letter, stating that no petitions were filed. I need to document in writing for our Environmental Assessment of the project.

Thank you in advance,
Amy

Amy Van Dercook, P.G.
U.S. Department of Energy | Golden Field Office
1617 Cole Blvd., Golden, CO 80401-3393
Phone: 720.356.1666 | Mobile: 720.233.5392
Email: amy.vandercook@go.doe.gov



Issued Date: 12/01/2010

Kurt Bookout
City of El Dorado
105 Wetlands Drive
El Dorado, KS 67042

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Wind Turbine El Dorado WRF Wind Turbine
Location: El Dorado, KS
Latitude: 37-47-49.00N NAD 83
Longitude: 96-51-04.00W
Heights: 326 feet above ground level (AGL)
1595 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

See attachment for additional condition(s) or information.

This determination expires on 06/01/2012 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before December 31, 2010. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division - Room 423, Federal Aviation Administration, 800 Independence Ave., Washington, D.C. 20591.

This determination becomes final on January 10, 2011 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Office of Airspace and Rules via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Brenda Mumper, at (847) 294-7520. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-WTE-13130-OE.

Signature Control No: 130791357-133862866

Sheri Edgett-Baron
Manager, Obstruction Evaluation Service

(DNH -WT)

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2010-WTE-13130-OE

Proposal: To construct a wind turbine to a height of 326 feet above ground level, 1595 feet above mean sea level.

Location: The structure will be located 2.1 nautical miles northwest of the airport reference point for the Captain Jack Thomas / El Dorado Airport (EQA).

Part 77 Obstruction Standards exceeded:

Section 77.23(a)(2) by 15 feet - a height that exceeds 1580 feet above mean sea level within 3 nautical miles of EQA.

Section 77.23(a)(5) a height that affects an Airport Surface by penetrating Section 77.25(b) Conical Surface by 20 feet as applied to EQA.

The study was circularized for public comment on October 22, 2010. No comments were received as a result of circularization.

Aeronautical study revealed that the proposed structure would have no effect on any existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures.

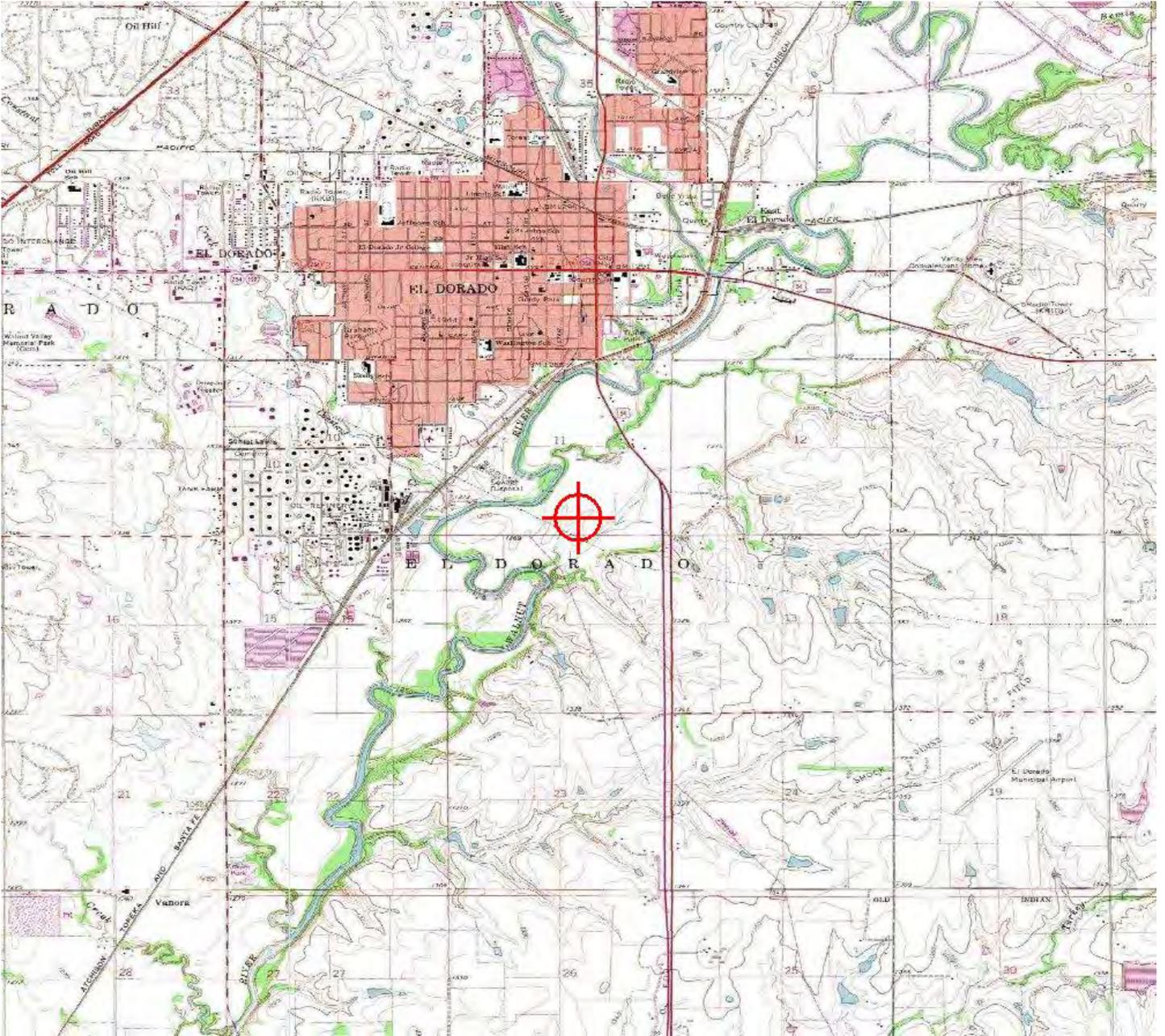
Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at EQA or any other known public-use or military airports.

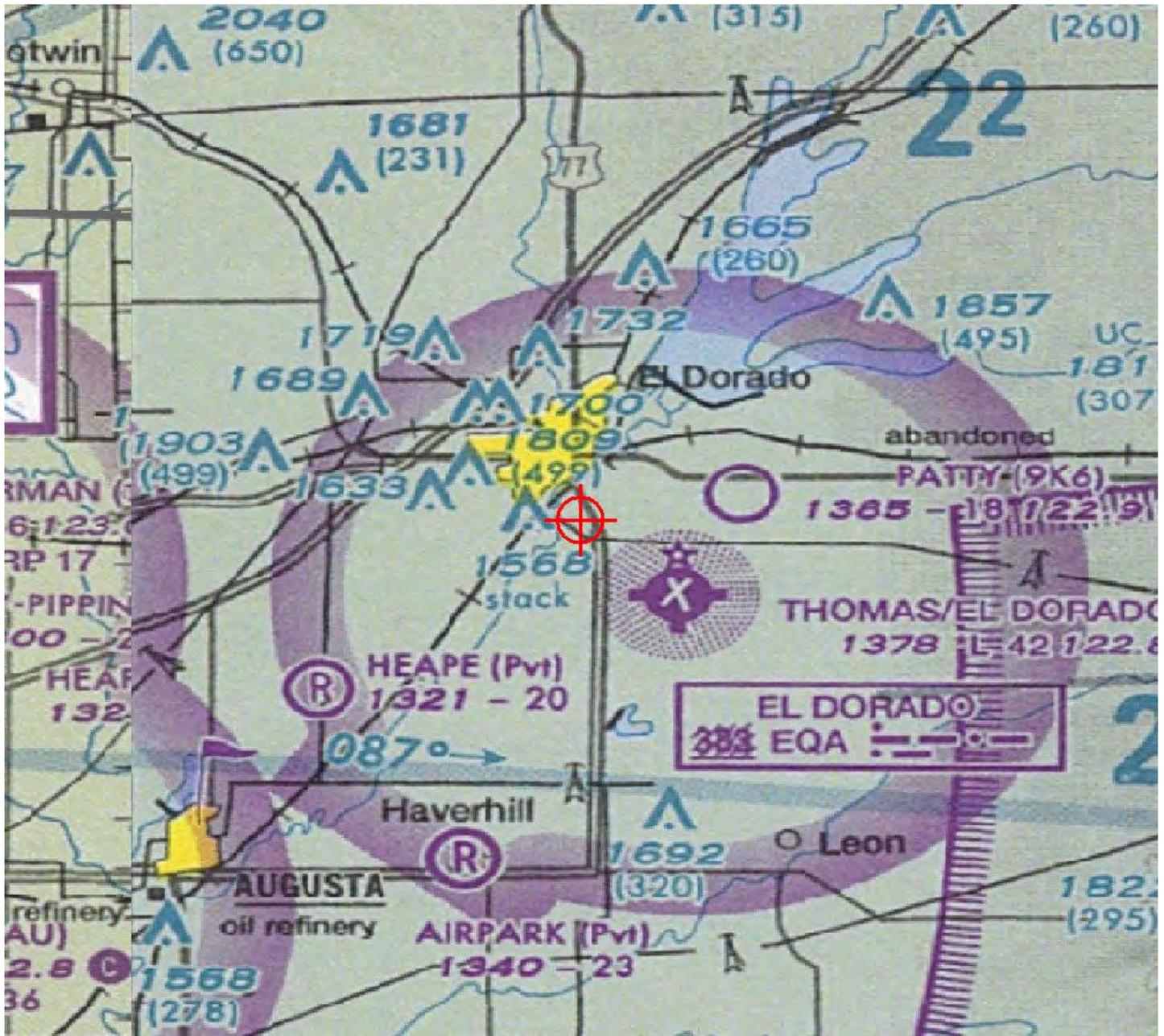
At 326 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation.

TOPO Map for ASN 2010-WTE-13130-OE





FW: El Dorado Wind Turbine

Kurt Bookout [wildcat@eldoks.com]

Sent: Wednesday, December 08, 2010 12:49 AM

To: Ferro, James; Van Dercook, Amy [amy.vandercook@go.doe.gov]

Here is the email I sent October 21st, requesting further study. I haven't heard anything, but I have rec'd a card in the mail as part of their public notification process.

From: Kurt Bookout [mailto:wildcat@eldoks.com]

Sent: Thursday, October 21, 2010 3:12 PM

To: 'brenda.mumper@faa.gov'

Subject: El Dorado Wind Turbine

Brenda,

We would like to request further study to erect the wind turbine at the proposed maximum height of 326 feet (top of blade tip). Please let me know if there is anything I can do to be of assistance.

Thank You,

Kurt Bookout

Director of Public Utilities

105 Wetlands Drive, El Dorado, KS 67042

316-322-4980

"When the well is dry, we know the worth of water"

- Benjamin Franklin



Issued Date: 09/28/2010

Kurt Bookout
City of El Dorado
105 Wetlands Drive
El Dorado, KS 67042

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine El Dorado WRF Wind Turbine
Location:	El Dorado, KS
Latitude:	37-47-49.00N NAD 83
Longitude:	96-51-04.00W
Heights:	326 feet above ground level (AGL) 1595 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 306 feet above ground level (1575 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (847) 294-7520. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-WTE-13130-OE.

Signature Control No: 130791357-131395008

(NPH -WT)

Brenda Mumper
Specialist

Attachment(s)
Additional Information

Additional information for ASN 2010-WTE-13130-OE

The proposed construction would be located 2.10 nautical miles (NM) northwest of the airport reference point (ARP) for the Captain Jack Thomas / El Dorado Airport (EQA) in El Dorado, Kansas. It is identified as an obstruction under the standards of 14 CFR, part 77, as follows as applied to EQA:

Section 77.23(a)(2) by 15 ft. - a height AGL or airport elevation, whichever is higher, exceeding 200 ft. within 3 miles.

Section 77.23(a)(5) by 20 ft. - a height exceeding the conical surface (slopes outward 4000 ft. from the horizontal surface at a 20:1 ratio).

A favorable determination can be issued immediately for a structure height of 306 ft. AGL / 1575 ft. AMSL, once we receive notification of acceptance of the lower height. If at all possible, we recommend that you accept the lower height.

Your response may be e-mailed to brenda.mumper@faa.gov. Please include the aeronautical study number on your correspondence.



"Van Dercook, Amy"
<amy.vandercook@go.doe.gov>
09/16/2010 04:02 PM

To "Ferro, James" <JFerro@icfi.com>, david_kocour@urscorp.com
cc "Kurt Bookout" <wildcat@eldoks.com>, "Terry Steuber" <t.steuber@kcc.ks.gov>, jgunby@gbateam.com
bcc

Subject FW: Proposed Wind Turbine (FAA consultation)

History: ↗ This message has been forwarded.

Please see below

-----Original Message-----

From: brenda.mumper@faa.gov [mailto:brenda.mumper@faa.gov]
Sent: Thursday, September 16, 2010 1:56 PM
To: Van Dercook, Amy
Subject: Proposed Wind Turbine

Good afternoon,

Someone in the FAA office in Kansas City advised me that they had received a postcard about a proposed wind turbine. I just wanted to ensure you were aware of the regulations concerning notification to the FAA of any proposed construction or alteration. The regulations are contained in Title 14 CFR, Part 77 and there's a link to the notice criteria on our website, <http://oeaaa.faa.gov> <<http://oeaaa.faa.gov/>> . You may also use the Notice Criteria Tool on the website to determine whether notice to the FAA is required.

Please contact me if you have any questions.

Best regards,

Brenda Mumper
Wind Turbine Specialist
AR, KS, LA, MO, NE, OK, TX and Republic of Panama Federal Aviation Administration, Air Traffic Organization Obstruction Evaluation Service, Chicago Office
(847) 294-7520
brenda.mumper@faa.gov
OES Website: <http://oeaaa.faa.gov> <<http://oeaaa.faa.gov/>>



"Kurt Bookout" <wildcat@eldoks.com>
09/17/2010 09:32 PM

To <jgunby@gbateam.com>, "Ferro, James"
<JFerro@icfi.com>, <amy.vandercook@go.doe.gov>,
<david_kocour@urscorp.com>

cc

bcc

Subject FW: Thank you for your registration with OE/AAA.

History:  This message has been forwarded.

Here's the confirmation rec'd from FAA submittal.
Kurt

-----Original Message-----

From: oeaaa_helpdesk@cghtech.com [mailto:oeaaa_helpdesk@cghtech.com]
Sent: Friday, September 10, 2010 2:30 PM
To: wildcat@eldoks.com
Subject: Thank you for your registration with OE/AAA.

Kurt Bookout,

Your registration has been confirmed for the OE/AAA web application at
<http://oeaaa.faa.gov>.

We registered your account with the following information:

Username: wildcat@eldoks.com
Email: wildcat@eldoks.com
Phone: 316-322-4980
Fax: 316-321-1898

For security reasons, your password is not included in this email. If you forget your password, you may reset it by navigating to the "Forgot my Password" link on the OE/AAA login page.

Thank you for your registration to use the OE/AAA web application.

OE/AAA Support Desk
Phone: 202-580-7500
Email: oeaaa_helpdesk@cghtech.com

Attachment C-3: Kansas Department of Wildlife and Parks

July 30, 2010

Mr. Kurt Bookout
Director of Public Utilities
City of El Dorado
105 Wetlands Drive
El Dorado, KS 67042
wildcat@eldoks

Ref: D5.0302
Butler
Track: 20100308

RE: KDWP Review of Proposed El Dorado Wind Turbine Project

Dear Mr. Bookout:

We have reviewed the information for the proposed location of a single wind turbine in Section 11, Township 26 South, Range 05 East, Butler County. The project was reviewed for potential impacts on crucial wildlife habitats, current state-listed threatened and endangered species and species in need of conservation, and public recreation areas for which this agency has some administrative authority.

Overall we have no major concerns with respect to the project as proposed. Due to the location of the "East Site" in juxtaposition to the constructed wetlands and the potential for bird use of that wetland, we conclude that the "West Site" is more suitable and poses less of a risk to wildlife. I would suggest contacting Dan Muhern with the USFWS for their guidance as well.

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently listed threatened or endangered species or species in need of conservation. No Department of Wildlife and Parks permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans. Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

Thank you for the opportunity to provide these comments and recommendations. If you have any questions or concerns, please contact me at (620)-672-0798 or eric.johnson@ksoutdoors.com.

Sincerely,



James Ferro, IFC International
Dan Mulhern, USFWS

Eric R. Johnson, Ecologist
Environmental Services Section

Attachment C-4: U.S. Fish and Wildlife Service

FW: FW: El Dorado Wind Turbine Project

Van Dercook, Amy [amy.vandercook@go.doe.gov]

Sent: Thursday, October 07, 2010 2:47 PM**To:** Ferro, James; David_Kocour@URSCorp.com**Attachments:** Cover Letter_DOE.pdf (456 KB) ; Summary_Discussion_with_Da~1.pdf (72 KB) ; Wind_Turbine_Guidelines_Ad~1.pdf (2 MB) ; USFWS Service Interim Guid~1.pdf (367 KB) ; Figures 1 and 2.pdf (339 KB)

Please see response below from USFWS. Please put in admin record.

Thanks,
Amy

-----Original Message-----

From: Dan_Mulhern@fws.gov [mailto:Dan_Mulhern@fws.gov]

Sent: Thursday, October 07, 2010 8:55 AM

To: Van Dercook, Amy

Cc: Mike_LeValley@fws.gov

Subject: Re: FW: El Dorado Wind Turbine Project

Ms. Van Dercook:

The information you have provided accurately reflects the issues we raised with ICF International, and there is nothing new to add to this discussion. Although the occurrence of listed threatened and endangered species is possible, that likelihood is low due to the project location. Given that this will be a single turbine, many of the concerns associated with large-scale commercial wind farms will not exist. Precautions should be taken to avoid the possibility of bird strikes, including minimizing the use of above-ground transmission lines and adequately marking any lines which are constructed. Periodic monitoring of the site post-construction will provide information on the level of migratory bird impact, if any.

If you have additional comments or questions, please contact me again.

Dan Mulhern

Inactive hide details for "Van Dercook, Amy" <amy.vandercook@go.doe.gov>"Van Dercook, Amy" <amy.vandercook@go.doe.gov>

"Van Dercook, Amy" <amy.vandercook@go.doe.gov>

09/30/2010 08:57 AM

To

Dan_Mulhern@fws.gov

cc

Subject

FW: El Dorado Wind Turbine Project

Dear Mr. Mulhern:

As per my voice mail, I am working with City of El Dorado, the State of Kansas, Jim Ferro, Dave Johnson, Lizelle Espinosa (with ICF International), and David Kocour (URS) on the proposed wind turbine project's Environmental Assessment.

Please see attached cover letter and attachments. We are not requesting a "formal" consultation; however, please provide any additional input concerning project.

Thank you for your consideration,
Amy

Amy Van Dercook, P.G.
U.S. Department of Energy | Golden Field Office
1617 Cole Blvd., Golden, CO 80401-3393
Phone: 720.356.1666 | Mobile: 720.233.5392
Email: amy.vandercook@go.doe.gov

(See attached file: Cover Letter_DOE.pdf)(See attached file: Summary_Discussion_with_Dan_Mulhern_from_US_FWS_Region_6.pdf)(See attached file: Wind_Turbine_Guidelines_Advisory_Committee_Recommendations_Secretary.pdf)(See attached file: USFWS Service Interim Guidelines to Avoid and Minimize Wildlife Impacts.pdf)(See attached file: Figures 1 and 2.pdf)



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 29, 2010

Dan Mulhern
US Fish and Wildlife Service (USFWS)
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, Kansas 66503-6172

SUBJECT: El Dorado Wind Turbine Project, Butler County, Kansas

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2). The approximate center point of the proposed wind turbine, near the western slope of the landfill, would be Latitude and Longitude, 37° 47' 49" N and 96° 51' 04" W.

It is estimated that the proposed turbine would consist of a 230 foot (70 meter) tower and a 194 foot (59 meter) diameter rotor for a total turbine height of approximately 330 feet (100 meters) above ground level. DOE has considered a 0.5 mile (0.8 kilometers) radius Area of Potential Effects (APE) from the base of the proposed site. The proposed turbine location will be surrounded immediately by agricultural cropland and the water treatment facility. A large commercial refinery facility is located approximately 0.75 miles (1.2 kilometers) to the west of the site. The southern edge of residential development in the city of El Dorado is located approximately 0.75 miles (1.2 kilometers) to the northwest of the site. The areas to the north, east and south are predominantly agricultural with scattered rural residential structures within one mile (1.6 kilometers) of the site.

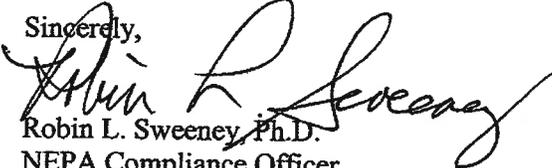
DOE is in the process of preparing an Environmental Assessment (EA) for this project, as well as a Floodplain Assessment, based on the project's proposed location. As part of our project preparation, you were identified as a project stakeholder and provided our Notice of Scoping and Proposed Floodplain Action postcard which was sent out on September 13, 2010.

Based on prior discussions with you and subsequent review of project details through the EA process, DOE has determined that there will be no effect on listed threatened and endangered species within Butler County, and no significant effects to migratory birds, bats and eagles from this project (Attachments 3 and 4). Since this is a project being funded by the American Recovery and Reinvestment Act, we are working diligently to expedite our process and would like to affirmatively **determine if any permitting, site visit and/or consultation with USFWS** is required in advance of the Draft EA being issued for public review. USFWS will be notified of the availability of the Draft EA. This letter serves to formally solicit input from the USFWS to ensure any potential concerns are adequately addressed within the document in as timely a manner as possible.



Please email or send any comments you have on this project, and/or any requests for additional information, to Ms. Amy VanDercook, at the following:

*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doe.gov*

Sincerely,

Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments:

Figure 1 – Facility Location

Figure 2 – Proposed Project Area

Attachment 3 – Discussion Summary-Dan Mulhern, USFWS Kansas Ecological Field Services Office (8/20/10)

Attachment 4 – USFWS Correspondence-Bald Eagle Nest Data for Kansas (8/8/10)

References: USFWS Wind Turbine Guidelines Advisory Committee Recommendation (3/14/10)

USFWS Interim Guidelines on Avoiding and Minimizing Wildlife Impacts from Wind Turbines (5/13/03)

**Summary of Discussion with
Dan Mulhern
US FWS Kansas Ecological Field Services Office
Manhattan, KS
August 20, 2010**

Participants:

Dan Mulhern, US FWS
Jim Ferro, ICF International
Dave Johnson, ICF International
Lizelle Espinosa, ICF International

Endangered Species

USFWS confirmed that the Topeka Shiner does not occur in the vicinity of the site. It is located in the north part of Butler County.

Migratory Birds

The site lies in a migratory corridor, the Central Flyway; therefore, there is a low possibility for flyovers by:

- Least Tern (possibly could travel through area but presence not likely, not expected to be an issue)
- Piping Plover (possibly could travel through area but presence not likely, not expected to be an issue)
- Whooping Crane

The Whooping Crane can be found right on the western fringe of Butler County [approx. 16-17 miles west of El Dorado] and likelihood is very low for flyover. It is also very unlikely that the birds would use the man-made wetlands that are located on site because these species require shallow shoreline areas, which these man-made wetlands do not have.

Bats

USFWS is not aware of any bats listed in the vicinity of the site. Indiana Bat and Gray Bat do not exist in the area. They are found closer to KS/MO border and away from Butler County. US FWS is not aware of any concentration areas of native bat species in the site vicinity.

Eagles

KDWP and USFWS have a database of listed Eagles nests in the state of Kansas. There are no known nests near El Dorado Reservoir though the area was listed as critical habitat by the KDPW prior to the eagles delisting. The closest nests are miles away from the site closer to Wichita, KS. Eagles nest data was received from Dan providing latitude and longitude of all listed nests in the state.

The site is not close enough to known eagles nests to cause disruption. Dan followed up the call by providing a copy of the known bald eagle nests in the area.

It is not likely that the eagles would utilize the Walnut River in the vicinity of the project due to its small and narrow features. More likely to stay close to lakes. It is likely that eagles will winter in El Dorado Reservoir; the eagles are usually located at all KS reservoirs. Depending on whether it's a harsh winter, eagle population will vary near the Reservoir. There are eagles in the vicinity and but US FWS considers it sufficient enough for the recipient to take normal, standard precautions in regards to birds.

US FWS Guidelines and Recommendations

USFWS guidelines were designed primarily to deal with commercial size wind farms. A lower footprint is expected in regards to a single wind turbine. Take Permits are not intended to be used for precaution. One would only obtain or apply for a permit if it is known that there will be take of a bird. This is more likely to happen with a wind farm. There is a very low likelihood of a take with single wind turbine.

US FWS also does not require a carcass survey for a single turbine, though any type of monitoring information that could be provided would be welcomed.

***Overhead Power & Transmission Lines** are something to be considered. US FWS recommends that overhead power and transmission lines should be kept to a minimum to power the facility or eliminate them altogether.

USFWS also has lighting recommendations and a monopole design is preferred.

The KDWP has for the time being adopted the FAC guidelines (Federal Advisory Committee) on wind turbine development. The FWS is reviewing these guidelines prior to issuing its own guidance probably in 2011.

USFWS Consultation & Notification

If DOE determines No effect, no need to do Section 7 Consultation with US FWS. However, DOE will include Dan/USFWS in public scoping and Notice of Availability of the public draft.

Action Item: Send him postcards advising of scoping and the Draft EA.

Dan sees minor differences between installation of Wind turbine on West or East Side. There does not seem to be much of a critical difference between West & East sites. It's possible that there were some concerns regarding grasslands and wetlands on the East Side of US 7. But again, seems to be minimal differences.

Wind Turbine Guidelines Advisory Committee

Established under the Federal Advisory Committee Act October 26, 2007

COMMITTEE MEMBERS:

Taber Allison
Massachusetts Audubon Society

Dick Anderson
California Energy Commission

Ed Arnett
Bat Conservation International

Michael Azeka
AES Wind Generation

G. Thomas Bancroft
National Audubon Society

Kathy Boydston
Texas Parks and Wildlife Department

René Braud
Horizon Wind Energy

Scott Darling
Vermont Fish & Wildlife Department

Aimee Delach
Defenders of Wildlife

Sam Enfield
MAP Royalty, Inc.

Greg Hueckel
Washington State Department of Fish & Wildlife

Jeri Lawrence
Blackfeet Nation

Steve Lindenberg
U.S. Department of Energy

Rob Manes
The Nature Conservancy

Winifred Perkins
NextEra Energy Resources

Steve Quarles
Crowell & Moring, LLP

Rich Rayhill
Ridgeline Energy

Robert Robel
Kansas State University

Keith Sexson
Association of Fish and Wildlife Agencies

Mark Sinclair
Clean Energy Group

Dave Stout
U.S. Fish & Wildlife Service

Patrick Traylor
Hogan & Hartson, LLP

March 4, 2010

To: Secretary of the Interior

Through: Acting Director, U.S. Fish and Wildlife Service

From: Chairman, Wind Turbine Guidelines Advisory Committee

Attached please find the Wind Turbine Guidelines Advisory Committee (Committee) recommendations. In 2007, the Committee was established under the Federal Advisory Committee Act, to provide advice and recommendations on developing effective measures to avoid or minimize impacts to wildlife and their habitats related to land-based wind energy facilities. Our Committee is comprised of 22 members representing the federal, state, and tribal governments, wildlife conservation organizations, and the wind industry.

We are pleased to provide these recommendations. We have divided our report into two sections: policy recommendations, and recommended voluntary guidelines for wind siting and operations to avoid or minimize potential impacts to wildlife and habitat from wind energy development. We appreciate your consideration of these recommendations.

The Committee has worked diligently to understand each other's interests and believes this product is highly professional and scientifically credible. The members remain committed to further assist in implementing guidelines that will achieve minimal impacts to wildlife and habitats, while providing the flexibility to develop the nation's wind energy resources. Please contact Dave Stout, Committee Chairperson, at 703-358-2161, if you require any additional information about the Committee's recommendations.





United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

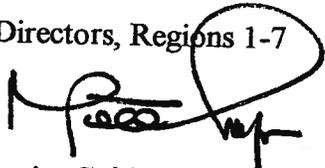
IN REPLY REFER TO:

MAY 13 2003

FWS/DFPA/BFA

Memorandum

To: Regional Directors, Regions 1-7

From: Deputy Director 

Subject: Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines

Wind-generated electrical energy is renewable, produces no emissions, and is considered to be generally environmentally friendly technology. Development of wind energy is strongly endorsed by the Secretary of the Interior, as expressed in the Secretary's Renewable Energy on Public Lands Initiative (May 2002). However, wind energy facilities can adversely impact wildlife, especially birds and bats, and their habitats. As more facilities with larger turbines are built, the cumulative effects of this rapidly growing industry may initiate or contribute to the decline of some wildlife populations. The potential harm to these populations from an additional source of mortality makes careful evaluation of proposed facilities essential. Due to local differences in wildlife concentration and movement patterns, habitats, area topography, facility design, and weather, each proposed development site is unique and requires detailed, individual evaluation.

Service personnel may become involved in the review of potential wind energy developments on public lands through National Environmental Policy Act review (sections 1501.6, *opportunity as a cooperating agency*, and section 1503.4, *duty to comment on federally-licensed activities for agencies with jurisdiction by law*, i.e., the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act); or because of special expertise. The National Wildlife Refuge System Improvement Act requires that any activity on Refuge lands be determined to be compatible with the Refuge system mission and Refuge purpose(s). In addition, the Service is required by the Endangered Species Act to assist other Federal agencies in ensuring that any action they authorize, implement, or fund will not jeopardize the continued existence of any federally endangered or threatened species. Service biologists have also received requests from industry for consultation on wildlife impacts of proposed wind energy developments on private lands.

The following guidance was prepared by the Service's Wind Turbine Siting Working Group. It is intended to assist Service staff in providing technical assistance to the wind energy industry to avoid or minimize impacts to wildlife and their habitats through: (1) proper evaluation of potential wind energy development sites; (2) proper location and design of turbines and

associated structures within sites selected for development; and (3) pre- and post-construction research and monitoring to identify and/or assess impacts to wildlife. This guidance is intended for terrestrial applications only; guidelines for wind energy developments in marine environments and the Great Lakes will be provided at a future date. The interim guidelines are based on current science and will be updated as new information becomes available. They will be evaluated over a two-year period, and then modified as necessary based on their performance in the field and on the latest scientific and technical discoveries developed in coordination with industry, states, academic researchers, and other Federal agencies. A Notice of Availability and request for comments will be published in the Federal Register simultaneously with the release of this guidance to Service personnel. We encourage industry use of this guidance and solicit their feedback on its efficacy.

These guidelines are not intended nor shall they be construed to limit or preclude the Service from exercising its authority under any law, statute, or regulation, and to take enforcement action against any individual, company, industry or agency or to relieve any individual, company, industry, or agency of its obligations to comply with any applicable Federal, State, or local laws, statutes, or regulations.

Implementation of Service recommendations provided in accordance with these guidelines by the wind energy industry is voluntary. Field offices have discretion in the use of these guidelines on a case-by-case basis, and may also have additional recommendations to add which are specific to their geographic area.

The Migratory Bird Treaty Act (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the Act has no provision for allowing an unauthorized take, it must be recognized that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. The Service's Office of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the Act to absolve individuals, companies, or agencies from liability if they follow these recommended guidelines, the Office of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals, companies, or agencies who have made good faith efforts to avoid the take of migratory birds.

Please ensure that all field personnel involved in review of wind energy development proposals receive copies of this memorandum. Questions regarding this issue should be directed to Dr. Benjamin N. Tuggle, Chief, Division of Federal Program Activities, at (703) 358-2161, or Brian Millsap, Chief, Division of Migratory Bird Management, at (703) 358-1714.

Attachment

FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location



FIGURE 2
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Proposed Turbine Location



- Suggested location
- Available location



"Espinosa, Lizelle" <LEspinosa@icfi.com>

09/09/2010 09:31 AM

To Kurt Bookout <wildcat@eldoks.com>, "jgunby@gbateam.com" <jgunby@gbateam.com>, Terry Steuber <t.steuber@kcc.ks.gov>, cc "Ferro, James" <JFerro@icfi.com>, "amy.vandercook@go.doe.gov" <amy.vandercook@go.doe.gov>, bcc

Subject Notes from Discussion with Dan Mulhern - US FWS Region 6 and other documents

History: This message has been replied to.

Hello all,

Please find attached a finalized summary document of the Teleconference with Dan Mulhern of US FWS Region 6. Corrections and edits were made based on Dan's response below regarding KDWP's adoption of the FAC guidelines (Federal Advisory Committee) on wind turbine development.

I've also attached several other documents which may be of use:

- 1.) a copy of the FAC guidelines to which Dan refers (dated March 4, 2010)
- 2.) a copy of the US FWS Service Interim Guidelines re: Wind Turbines (dated May 13, 2003)
- 3.) a copy of the email from Dan in regards to Bald Eagle Nest Data for Kansas
 - in the email is an excel spreadsheet attachment of the 2009 nest list for KS forwarded from Dan

Thanks,

Lizelle Espinosa
(703) 981-5226

From: Espinosa, Lizelle
Sent: Wednesday, September 08, 2010 3:45 PM
To: 'Kurt Bookout'; 'jgunby@gbateam.com'; 'Terry Steuber'; 'david_kocour@urscorp.com'
Cc: Ferro, James; 'amy.vandercook@go.doe.gov'; 'robin.sweeney@go.doe.gov'
Subject: FW: Bald Eagle Nest Data for KS

Here's the response from Dan Mulhern, US FWS regarding the Biological Resources.

Lizelle Espinosa
(703) 981-5226

From: Dan_Mulhern@fws.gov [mailto:Dan_Mulhern@fws.gov]
Sent: Monday, August 30, 2010 12:30 PM
To: Espinosa, Lizelle
Cc: Johnson, David C; Ferro, James
Subject: RE: Bald Eagle Nest Data for KS

Lizelle

Sorry for the delayed response. I think this adequately covers our conversation, with one change. I wasn't sure what you meant by the KDWP fact guidelines, but then I realized it was likely just a verbal error on my part when I was talking with you. The KDWP has for the time being adopted the FAC guidelines (Federal Advisory Committee) on wind turbine development. The FWS is reviewing these guidelines prior to issuing its own guidance probably in 2011. I suspect it will be very similar if not an outright adoption as well.

Dan

"Espinosa, Lizelle" <LEspinosa@icfi.com>

"Espinosa,
Lizelle"
<LEspinosa@icfi.
com>

08/23/2010 11:39
AM

To "Dan_Mulhern@fws.gov" <Dan_Mulhern@fws.gov>

cc "Johnson, David C" <DJohnson2@icfi.com>, "Ferro,
James" <JFerro@icfi.com>

Subject: RE: Bald Eagle Nest Data for KS

t

Hi Dan,

Just as a follow up to our telephone discussion last week, a summary was drafted of the topics that were discussed. Let me know if it looks like we covered everything and hit all points. And please feel free to include or provide clarification on any information in the draft. Your time and assistance has been very much appreciated.

Kind regards,

Lizelle Espinosa
(703) 981-5226

From: Espinosa, Lizelle
Sent: Friday, August 20, 2010 3:00 PM
To: 'Dan_Mulhern@fws.gov'
Subject: RE: Bald Eagle Nest Data for KS

That's great. Thanks so much. Appreciate you taking the time to speak with us this morning.

Have a great weekend!

Lizelle Espinosa
(703) 981-5226

From: Dan_Mulhern@fws.gov [mailto:Dan_Mulhern@fws.gov]
Sent: Friday, August 20, 2010 2:59 PM
To: Espinosa, Lizelle
Subject: Bald Eagle Nest Data for KS

Lizelle

Here is the 2009 nest list for KS; don't have it updated yet with new locations for 2010, but none are close to El Dorado.

Dan

*(See attached file: Kansas Bald Eagle Nest List 2009.xls)(See attached file:
Summary_Discussion_with_Dan_Mulhern_from_US_FWS_Region_6.doc)*

----- Message from <Dan_Mulhern@fws.gov> on Fri, 20 Aug 2010 13:58:33 -0500 -----
<Espinosa, Lizelle" <LEspinosa@icfi.com" :**To**
Bald Eagle Nest Data for KS :**Subject**

Lizelle

Here is the 2009 nest list for KS; don't have it updated yet with new locations for 2010, but none are close to El Dorado.

Dan



(See attached file: Kansas Bald Eagle Nest List 2009.xls) Kansas Bald Eagle Nest List 2009.xls



Summary_Discussion_with_Dan_Mulhern_from_US_FWS_Region_6.pdf



Wind_Turbine_Guidelines_Advisory_Committee_Recommendations_Secretary.pdf



USFWS Service Interim Guidelines to Avoid and Minimize Wildlife Impacts.pdf

NestID	State	StateID	Lng	Lat	LocAcc	Location
KS	CLN01	95.39867	38.89241	200	Clinton Reservoir, Rock Creek Arm, tree	
KS	CLN02	95.42950	38.91563	200	Clinton Reservoir, Wakarusa Arm, tree	
KS	CLN03	95.43004	38.95312	200	Clinton Reservoir, Wakarusa Arm, tree	
KS	HIL01	94.97476	38.70435	200	Hillsdale Reservoir, Big Bull Creek, tree	
KS	HIL02	94.86951	38.71871	200	Hillsdale Reservoir, Little Bull Creek, tree	
KS	PER01	95.40490	39.17228	200	Perry Reservoir, Slough Creek, tree	
KS	PER02	95.42367	39.09803	200	Perry Reservoir, Outlet Area, tree	
KS	PER03	95.45067	39.25756	200	Perry Reservoir, Paradise Point, tree	
KS	PER04	95.49045	39.20433	200	Perry Reservoir, 86th Street, tree	
KS	FIN01	100.29525	38.14895	200	Finney County, cropland, tree	
KS	WLF01	95.71024	38.26849	200	Wolf Creek Powerplant cooling lake, tree	
KS	GLE01	98.49285	39.49117	200	Glen Elder Reservoir, tree	
KS	OSA01	95.54317	38.64218	200	Osage County, below Pomona Reservoir, tree	
KS	NEO01	95.17506	37.49796	200	Neosho County, pecan grove near St Paul	
KS	TUT01	96.63206	39.50353	200	Tuttle Creek Reservoir, Shannon Creek, tree	
KS	TUT02	96.66740	39.29803	200	Tuttle Creek Reservoir, Mill Creek cove, tree	
KS	MIL01	96.87994	39.18477	200	Milford Reservoir, Madison Creek, tree	
KS	MIL02	96.99887	39.27837	200	Milford Reservoir, Smith Bottoms, tree	
KS	FTR01	96.91708	39.22139	200	Fort Riley Military Reservation, Farnum Creek, tree	
KS	FAL01	96.25417	37.79374	200	Fall River near Eureka, tree	
KS	CDB01	99.85345	38.78885	200	Cedar Bluff Reservoir, tree	
KS	CDB02	99.69753	38.79869	200	Cedar Bluff Reservoir, tree	
KS	CIM01	100.81242	37.16005	200	Cimarron River near Arkalon, tree	
KS	MRC01	97.01167	38.31167	200	Marion County Lake, tree	
KS	KSR01	95.31066	39.03412	200	Kansas River near Williamstown, tree	
KS	KSR02	95.39559	39.05464	200	Kansas River near Lecompton, tree	
KS	KSR03	95.56950	39.05825	200	Kansas River near Tecumseh, tree	
KS	KSR04	95.20883	38.98995	200	Near KS River along I-70 at Lawrence, tree	
KS	KSR05	95.87906	39.08541	200	Kansas River near Valencia, tree	
KS	KSR06	95.01347	39.00031	200	Kansas River near DeSoto, tree	
KS	KSR07	94.76491	39.05994	200	Kansas River near Bonner Springs, tree	
KS	KSR08	96.39889	39.17886	200	Kansas River near Zeandale, tree	
KS	KSR09	96.06842	39.16100	200	Kansas River near St Marys, tree	
KS	KSR10	95.73830	39.07217	200	Kansas River near Topeka, tree	
KS	KSR11	95.20988	38.96832	200	Kansas River near Lawrence boat ramp, tree	
KS	KSR12	94.89200	39.01363	200	Kansas River near Frisbie, tree	
KS	ARK01	97.26360	37.45798	200	Arkansas River near Mulvane, tree	
KS	ARK02	97.15150	37.30205	200	Arkansas River near Oxford, tree	
KS	WAL01	97.00943	37.08885	200	Walnut River near Arkansas City, tree	
KS	QNW01	98.54797	38.16797	200	Quivira National Wildlife Refuge, tree	
KS	BUT01	96.77110	37.70825	200	Butler County near Leon, tree	
KS	KGM01	98.22997	37.63360	200	Kingman County, SF Ninnescah River, tree	

Access	Owner	DatEntered	Status
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	destroyed
Private	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	unknown
Private	Mulhern, Dan	11/4/2009	egg
Federal	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	eaglet
Federal	Mulhern, Dan	11/4/2009	empty
Private	Mulhern, Dan	11/4/2009	unknown
County	Mulhern, Dan	11/4/2009	empty
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
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Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	eaglet
Private	Mulhern, Dan	11/4/2009	egg
Private	Mulhern, Dan	11/4/2009	egg
Private	Mulhern, Dan	11/4/2009	egg
Federal	Mulhern, Dan	11/4/2009	egg
Private	Mulhern, Dan	11/4/2009	empty
Private	Mulhern, Dan	11/4/2009	empty

**Summary of Discussion with
Dan Mulhern
US FWS Kansas Ecological Field Services Office
Manhattan, KS
August 20, 2010**

Participants:

Dan Mulhern, US FWS
Jim Ferro, ICF International
Dave Johnson, ICF International
Lizelle Espinosa, ICF International

Endangered Species

USFWS confirmed that the Topeka Shiner does not occur in the vicinity of the site. It is located in the north part of Butler County.

Migratory Birds

The site lies in a migratory corridor, the Central Flyway; therefore, there is a low possibility for flyovers by:

- Least Tern (possibly could travel through area but presence not likely, not expected to be an issue)
- Piping Plover (possibly could travel through area but presence not likely, not expected to be an issue)
- Whooping Crane

The Whooping Crane can be found right on the western fringe of Butler County [approx. 16-17 miles west of El Dorado] and likelihood is very low for flyover. It is also very unlikely that the birds would use the man-made wetlands that are located on site because these species require shallow shoreline areas, which these man-made wetlands do not have.

Bats

USFWS is not aware of any bats listed in the vicinity of the site. Indiana Bat and Gray Bat do not exist in the area. They are found closer to KS/MO border and away from Butler County. US FWS is not aware of any concentration areas of native bat species in the site vicinity.

Eagles

KDWP and USFWS have a database of listed Eagles nests in the state of Kansas. There are no known nests near El Dorado Reservoir though the area was listed as critical habitat by the KDPW prior to the eagles delisting. The closest nests are miles away from the site closer to Wichita, KS. Eagles nest data was received from Dan providing latitude and longitude of all listed nests in the state.

The site is not close enough to known eagles nests to cause disruption. Dan followed up the call by providing a copy of the known bald eagle nests in the area.

It is not likely that the eagles would utilize the Walnut River in the vicinity of the project due to its small and narrow features. More likely to stay close to lakes. It is likely that eagles will winter in El Dorado Reservoir; the eagles are usually located at all KS reservoirs. Depending on whether it's a harsh winter, eagle population will vary near the Reservoir. There are eagles in the vicinity and but US FWS considers it sufficient enough for the recipient to take normal, standard precautions in regards to birds.

US FWS Guidelines and Recommendations

USFWS guidelines were designed primarily to deal with commercial size wind farms. A lower footprint is expected in regards to a single wind turbine. Take Permits are not intended to be used for precaution. One would only obtain or apply for a permit if it is known that there will be take of a bird. This is more likely to happen with a wind farm. There is a very low likelihood of a take with single wind turbine.

US FWS also does not require a carcass survey for a single turbine, though any type of monitoring information that could be provided would be welcomed.

***Overhead Power & Transmission Lines** are something to be considered. US FWS recommends that overhead power and transmission lines should be kept to a minimum to power the facility or eliminate them altogether.

USFWS also has lighting recommendations and a monopole design is preferred.

The KDWP has for the time being adopted the FAC guidelines (Federal Advisory Committee) on wind turbine development. The FWS is reviewing these guidelines prior to issuing its own guidance probably in 2011.

USFWS Consultation & Notification

If DOE determines No effect, no need to do Section 7 Consultation with US FWS. However, DOE will include Dan/USFWS in public scoping and Notice of Availability of the public draft.

Action Item: Send him postcards advising of scoping and the Draft EA.

Dan sees minor differences between installation of Wind turbine on West or East Side. There does not seem to be much of a critical difference between West & East sites. It's possible that there were some concerns regarding grasslands and wetlands on the East Side of US 7. But again, seems to be minimal differences.

Wind Turbine Guidelines Advisory Committee

Established under the Federal Advisory Committee Act October 26, 2007

COMMITTEE MEMBERS:

Taber Allison
Massachusetts Audubon Society

Dick Anderson
California Energy Commission

Ed Arnett
Bat Conservation International

Michael Azeka
AES Wind Generation

G. Thomas Bancroft
National Audubon Society

Kathy Boydston
Texas Parks and Wildlife Department

René Braud
Horizon Wind Energy

Scott Darling
Vermont Fish & Wildlife Department

Aimee Delach
Defenders of Wildlife

Sam Enfield
MAP Royalty, Inc.

Greg Hueckel
Washington State Department of Fish & Wildlife

Jeri Lawrence
Blackfeet Nation

Steve Lindenberg
U.S. Department of Energy

Rob Manes
The Nature Conservancy

Winifred Perkins
NextEra Energy Resources

Steve Quarles
Crowell & Moring, LLP

Rich Rayhill
Ridgeline Energy

Robert Robel
Kansas State University

Keith Sexson
Association of Fish and Wildlife Agencies

Mark Sinclair
Clean Energy Group

Dave Stout
U.S. Fish & Wildlife Service

Patrick Traylor
Hogan & Hartson, LLP

March 4, 2010

To: Secretary of the Interior

Through: Acting Director, U.S. Fish and Wildlife Service

From: Chairman, Wind Turbine Guidelines Advisory Committee

Attached please find the Wind Turbine Guidelines Advisory Committee (Committee) recommendations. In 2007, the Committee was established under the Federal Advisory Committee Act, to provide advice and recommendations on developing effective measures to avoid or minimize impacts to wildlife and their habitats related to land-based wind energy facilities. Our Committee is comprised of 22 members representing the federal, state, and tribal governments, wildlife conservation organizations, and the wind industry.

We are pleased to provide these recommendations. We have divided our report into two sections: policy recommendations, and recommended voluntary guidelines for wind siting and operations to avoid or minimize potential impacts to wildlife and habitat from wind energy development. We appreciate your consideration of these recommendations.

The Committee has worked diligently to understand each other's interests and believes this product is highly professional and scientifically credible. The members remain committed to further assist in implementing guidelines that will achieve minimal impacts to wildlife and habitats, while providing the flexibility to develop the nation's wind energy resources. Please contact Dave Stout, Committee Chairperson, at 703-358-2161, if you require any additional information about the Committee's recommendations.



**Attachment C-5: National Telecommunication and
Information Administration**



UNITED STATES DEPARTMENT OF COMMERCE
National Telecommunications and
Information Administration
Washington, D.C. 20230

NOV - 2 2010

Ms. Amy Vandercook
US Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Blvd.
Golden, CO 80401

Re: City of El Dorado Wetland Project, in Butler County, KS

Dear Ms. Vandercook:

In response to your request on September 9, 2010, the National Telecommunications and Information Administration provided to the federal agencies represented in the Interdepartment Radio Advisory Committee (IRAC), the plans for the City of El Dorado Wetland and Water Reclamation Facility Wind Project, located in Butler County, Kansas.

After a 45 day period of review, no federal agencies identified any concerns regarding blockage of their radio frequency transmissions.

While the IRAC agencies did not identify any concerns regarding radio frequency blockage, this does not eliminate the need for the wind energy facilities to meet any other requirements specified by law related to these agencies. For example, this review by the IRAC does not eliminate any need that may exist to coordinate with the Federal Aviation Administration concerning flight obstruction.

Thank you for the opportunity to review these proposals.

Sincerely,

Edward M. Davison
Deputy Associate Administrator
Office of Spectrum Management



"Kurt Bookout" <wildcat@eldoks.com>
09/17/2010 09:30 PM

To "'Ferro, James'" <JFerro@icfi.com>, <amy.vandercook@go.doe.gov>, <david_kocour@urscorp.com>, <jgunby@gbteam.com>
cc
bcc

Subject FW: El Dorado Wind Turbine Project

History:  This message has been forwarded.

Here's the email submitted for NTIA

From: Kurt Bookout [mailto:wildcat@eldoks.com]
Sent: Friday, September 10, 2010 5:24 PM
To: edavison@ntia.doc.gov; jhenry@ntia.doc.gov
Cc: 'Kurt Bookout'
Subject: El Dorado Wind Turbine Project

Edward and Joyce,

I am very pleased to submit this project for your review. Please call or e-mail if you have any questions.

Attached are the submittal forms and a map of the area showing the proposed site. There were originally two proposed sites, but we have now narrowed down to the one shown on the attached map and described on the NTIA submittal.

Kurt Bookout

Director of Public Utilities
105 Wetlands Drive, El Dorado, KS 67042
316-322-4980

"When the well is dry, we know the worth of water"
- Benjamin Franklin



NTIA_Submittal_-_ElDorado 9-10-10.docx Map of Wind Turbine proposed location 9-10-10.pdf

Date: TBD

Type of Notification: NEW

Project: City of El Dorado Wetland and Water Reclamation Facility Wind Energy Project

County: Butler

State: Kansas

Project Sponsor: U.S Department of Energy: Energy Efficiency and Renewable Energy

DOE NEPA Document Manager:

Amy Vandercook

Amy.Vandercook@ee.doe.gov

Work- (720) 356-1666

Mobile -

DOE Support NEPA Document Manager:

Jim Ferro

James.Ferro@ee.doe.gov

Work- (703) 218-2546

Mobile- (703) 231-0501

DOE Mailing Address

Amy Vandercook,
Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Blvd.
Golden, CO 80401

Turbine Description:

Number of Turbines	1 (two locations under consideration)
Turbine Size	1 MW
Turbine Hub Height AGL (meters)	70
Turbine Blade Diameter (meters)	59
Maximum Blade Tip Height AGL (meters)	99.5

(X) Turbine Location(s):

GPS:

37° 47' 49" N	96° 51' 04" W
---------------	---------------

Street Address: 105 Wetlands Drive, El Dorado, KS 67042

Turbines	Latitude	Longitude
Approx. 100 m West of WWTP	37° 47' 49" N	96° 51' 04" W

NOT APPLICABLE: Wind Farm Boundary Points:

If the specific locations of the turbines have not been selected, identify the boundaries of an area that will contain the proposed facility. Using latitude/ longitude coordinates, complete a

polygon that will enclose the potential turbine locations.

Potential Turbine Boundary	Latitude	Longitude

MAPS: PLEASE SEE ATTACHED

Submitted to:

Edward Davison

Email: edavison@ntia.doc.gov

Work Phone: (202) 482-5526

National Telecommunications & Information Administration (NTIA)
Domestic Spectrum Policies & IRAC Support Division (DSID)

&

Joyce C. Henry

Email: jhenry@ntia.doc.gov

Work Phone: (202) 482-1850/51

National Telecommunications & Information Administration (NTIA)
Office of Spectrum Management/HQ



● Suggested location
Available location

Attachment C-6: National Resource Conservation Service

United States Department of Agriculture



Natural Resources Conservation Service
3020 West 18th, Suite B
Emporia, Kansas 66801

Phone: 620-343-7276
FAX: 620-343-7871
www.ks.nrcs.usda.gov

November 17, 2010

Charles Arthur
URS Corporation
8300 College Blvd.
Suite 200
Overland Park, KS 66210

Re: El Dorado Wind Turbine Project, Butler County, Kansas

The Farmland Protection Policy Act (FPPA) applies to projects where federal technical or financial assistance is being requested. FPPA provides a process for determining an impact rating when important farmlands are being considered for conversion to non-agricultural uses.

Enclosed is Form AD-1006, Farmland Conversion Impact Rating with the Natural Resources Conservation Service's (NRCS) parts completed. The originator should complete Parts VI and VII and return a completed copy to this office at the above address.

Sincerely,

A handwritten signature in blue ink that reads "William M. Gilliam".

WILLIAM M. GILLIAM
Assistance State Conservationist

Enclosure(s)

cc:

Susan M. McBride, Soil Conservationist, NRCS, Salina, Kansas
Justin Kneisel, District Conservationist, NRCS, El Dorado, Kansas

U.S. DEPARTMENT OF AGRICULTURE
REFERENCE SLIP

TO: **William M. Gilliam**
Assistant State Conservationist
NRCS, Emporia, Kansas



XX ACTION
 APPROVAL
 AS REQUESTED
 FOR COMMENT
 FOR INFORMATION
 INITIALS
 NOTE AND FILE

NOTE AND RETURN
 PER PHONE CALL
 RECOMMENDATION
 REQUEST ASSISTANCE
 RETURNED
 SEE ME
 YOUR SIGNATURE

REMARKS:

Attached are Form AD-1006, Farmland Conversion Impact Rating, and support documents submitted by URS Corporation (wind turbine project in City of El Dorado, Butler County, Kansas). Please fill out Parts II, IV, and V and return to the requesting agency.

In your reply letter, please use following statement, using the name of the form or forms that are applicable: "Enclosed is Form AD-1006, Farmland Conversion Impact Rating (or Form NRCS-CPA-106, Farmland Conversion Impact Rating), with the Natural Resources Conservation Service's (NRCS) parts completed. The originator should complete Parts VI and VII and return a copy to this office at the above address."

Please courtesy copy:

Susie M. McBride, Soil Conservationist, NRCS, Salina, Kansas

FROM:

Cynthia S. Lucas, Office Assistant – Water Resources
Natural Resources Conservation Service
760 South Broadway
Salina, Kansas 67401-4604

Telephone: (785) 823-4538



September 28, 2010

Mr. Justin Kneisel
District Conservationist
USDA NRCS El Dorado Service Center
2503 Enterprise Avenue, Suite B
El Dorado, Kansas 67042-3275

*Please forward
to AO
JMM 11/5/10*

SUBJECT: El Dorado Wind Turbine Project, Butler County, Kansas

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles south of El Dorado on Highway 77. The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 MWh of energy each year. The proposed project location is just west of the existing wastewater treatment plant and is shown on the attached figure.

URS Corporation is currently conducting an Environmental Assessment (EA) for the proposed wind turbine project on behalf of the City of El Dorado and the DOE to meet the requirements of the National Environmental Protection Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including prime farmland.

It is estimated that the proposed turbine would consist of a 230 foot (70 meter) tower and a 194 foot (59 meter) diameter rotor for a total turbine height of approximately 330 feet (100 meters) above ground level. Preliminary design estimates include a base for the tower that would encompass approximately 2,000 square feet. The proposed turbine location is currently agricultural cropland and the surrounding areas will remain agricultural cropland.

In accordance with the Farm Protection Policy Act in an effort to determine whether or not the proposed project would have a significant impact upon Prime Farmlands or Farmland of Statewide Importance we are submitting a partially completed version of the Natural Resource Conservation Service's Form NRCS-AD-1006 (10-83) and requesting that you complete Parts II, IV, and V of the form and return it to my attention.

DOE will include correspondence with your office in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time we anticipate a 15-day public comment period for this proposed project.

URS Corporation
8300 College Blvd.
Suite 200
Overland Park, KS 66210
Tel: 913.344.1000
Fax: 913.344.1011

RECEIVED
11/04/10



Mr. Justin Kneisel
District Conservationist
USDA NRCS El Dorado Service Center
September 28, 2010
Page 2

Thank you in advance for your prompt attention to this matter. If you have any questions regarding this proposed project or need any additional information, please don't hesitate to call me at 913.344.1109 or you can email me at charles_arthur@urscorp.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Charles Arthur', with a long horizontal flourish extending to the right.

Charles Arthur
NEPA Specialist

Attachments: Figure 1
USDA NRCS Form AD-1006 (10-83)

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date Of Land Evaluation Request 9/28/10
Name Of Project El Dorado Water Treatment Plant Wind Turbine	Federal Agency Involved Department of Energy
Proposed Land Use Wind Turbine	County And State Butler County, Kansas

PART II (To be completed by NRCS)		Date Request Received By NRCS	
Does the site contain prime, unique, statewide or local important farmland? <i>(If no, the FPPA does not apply -- do not complete additional parts of this form).</i>		Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
		Acres Irrigated 0	Average Farm Size
Major Crop(s) Corn / soybeans	Farmable Land In Govt. Jurisdiction Acres: 250,380 % 27	Amount Of Farmland As Defined in FPPA Acres: 405,100 % 44	
Name Of Land Evaluation System Used LESA	Name Of Local Site Assessment System	Date Land Evaluation Returned By NRCS 11/17/10	

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.1			
B. Total Acres To Be Converted Indirectly	0.0			
C. Total Acres In Site	0.1	0.0	0.0	0.0

PART IV (To be completed by NRCS) Land Evaluation Information	Site A	Site B	Site C	Site D
A. Total Acres Prime And Unique Farmland	0.1			
B. Total Acres Statewide And Local Important Farmland	0.1			
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted	< 1			
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Criterion	Site A	Site B	Site C	Site D
Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	0 84	0	0	0

PART VI (To be completed by Federal Agency)	Maximum Points	Site A	Site B	Site C	Site D
Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))					
1. Area In Nonurban Use	12				
2. Perimeter In Nonurban Use	5				
3. Percent Of Site Being Farmed	10				
4. Protection Provided By State And Local Government	0				
5. Distance From Urban Builtup Area	5				
6. Distance To Urban Support Services	0				
7. Size Of Present Farm Unit Compared To Average	0				
8. Creation Of Nonfarmable Farmland	0				
9. Availability Of Farm Support Services	5				
10. On-Farm Investments	5				
11. Effects Of Conversion On Farm Support Services	0				
12. Compatibility With Existing Agricultural Use	0				
TOTAL SITE ASSESSMENT POINTS	160	42	0	0	0

PART VII (To be completed by Federal Agency)	Maximum Points	Site A	Site B	Site C	Site D
Relative Value Of Farmland (From Part V)	100	0 84	0	0	0
Total Site Assessment (From Part VI above or a local site assessment)	160	42	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	42 126	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
----------------	-------------------	---

Reason For Selection:



Natural Resources Conservation Service
760 South Broadway
Salina, Kansas 67401-4604

Phone: 785-823-4500
FAX: 785-823-4540
www.ks.nrcs.usda.gov

October 1, 2010

Amy Van Dercook
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, Colorado 80401

Dear Mr. Van Dercook:

Based on the information provided in your cover letter dated September 13, 2010, the Natural Resources Conservation Service has made the following determination on the information proposing to construct and install a single wind turbine at the facility in El Dorado, Butler County, Kansas.

- The project is not subject to the Farmland Protection Policy Act as no farmland is being converted to nonagricultural use.
- Your request needs to be accompanied with Form AD-1006, Farmland Conversion Impact Rating (or Form NRCS-CPA-106, Farmland Conversion Impact Rating for Corridor Projects) with parts I and III filled out. (Form AD-1006 is available at www.nrcs.usda.gov/programs/fppa/pdf_files/AD1006.PDF and Form NRCS-CPA-106 at www.nrcs.usda.gov/Programs/fppa/pdf_files/CPA106.pdf.) Please submit the completed form(s) to me at the above address or by e-mail to susie.mcbride@ks.usda.gov. Additionally, please provide the section, township and range of the project.

Sincerely,

A handwritten signature in cursive script that reads "Susie".

SUSIE M. MCBRIDE
Soil Conservationist



September 28, 2010

Mr. Justin Kneisel
District Conservationist
USDA NRCS El Dorado Service Center
2503 Enterprise Avenue, Suite B
El Dorado, Kansas 67042-3275

SUBJECT: El Dorado Wind Turbine Project, Butler County, Kansas

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles south of El Dorado on Highway 77. The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 MWh of energy each year. The proposed project location is just west of the existing wastewater treatment plant and is shown on the attached figure.

URS Corporation is currently conducting an Environmental Assessment (EA) for the proposed wind turbine project on behalf of the City of El Dorado and the DOE to meet the requirements of the National Environmental Protection Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including prime farmland.

It is estimated that the proposed turbine would consist of a 230 foot (70 meter) tower and a 194 foot (59 meter) diameter rotor for a total turbine height of approximately 330 feet (100 meters) above ground level. Preliminary design estimates include a base for the tower that would encompass approximately 2,000 square feet. The proposed turbine location is currently agricultural cropland and the surrounding areas will remain agricultural cropland.

In accordance with the Farm Protection Policy Act in an effort to determine whether or not the proposed project would have a significant impact upon Prime Farmlands or Farmland of Statewide Importance we are submitting a partially completed version of the Natural Resource Conservation Service's Form NRCS-AD-1006 (10-83) and requesting that you complete Parts II, IV, and V of the form and return it to my attention.

DOE will include correspondence with your office in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time we anticipate a 15-day public comment period for this proposed project.

URS Corporation
8300 College Blvd.
Suite 200
Overland Park, KS 66210
Tel: 913.344.1000
Fax: 913.344.1011



Mr. Justin Kneisel
District Conservationist
USDA NRCS El Dorado Service Center
September 28, 2010
Page 2

Thank you in advance for your prompt attention to this matter. If you have any questions regarding this proposed project or need any additional information, please don't hesitate to call me at 913.344.1109 or you can email me at charles_arthur@urscorp.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Charles Arthur', with a long horizontal flourish extending to the right.

Charles Arthur
NEPA Specialist

Attachments: Figure 1
USDA NRCS Form AD-1006 (10-83)

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)		Date Of Land Evaluation Request 9/15/10	
Name Of Project El Dorado Wind turbine		Federal Agency Involved Department of Energy	
Proposed Land Use Wind Turbine		County And State Butler County Kansas	

PART II (To be completed by NRCS)		Date Request Received By NRCS	
Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply -- do not complete additional parts of this form).		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Major Crop(s)		Farmable Land In Govt. Jurisdiction Acres: %	Acres Irrigated
Name Of Land Evaluation System Used		Name Of Local Site Assessment System	Average Farm Size Acres: %
		Date Land Evaluation Returned By NRCS	

PART III (To be completed by Federal Agency)	Alternative Site Rating			
	Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly	0.1			
B. Total Acres To Be Converted Indirectly	0.0			
C. Total Acres In Site	0.1	0.0	0.0	0.0

PART IV (To be completed by NRCS) Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				

PART V (To be completed by NRCS) Land Evaluation Criterion Relative Value Of Farmland To Be Converted (Scale of 0 to 100 Points)	0	0	0	0
--	---	---	---	---

PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.5(b))	Maximum Points				
1. Area In Nonurban Use	12				
2. Perimeter In Nonurban Use	5				
3. Percent Of Site Being Farmed	10				
4. Protection Provided By State And Local Government	0				
5. Distance From Urban Builtup Area	5				
6. Distance To Urban Support Services	0				
7. Size Of Present Farm Unit Compared To Average	0				
8. Creation Of Nonfarmable Farmland	0				
9. Availability Of Farm Support Services	5				
10. On-Farm Investments	5				
11. Effects Of Conversion On Farm Support Services	0				
12. Compatibility With Existing Agricultural Use	0				
TOTAL SITE ASSESSMENT POINTS	160	42	0	0	0

PART VII (To be completed by Federal Agency)					
Relative Value Of Farmland (From Part V)	100	0	0	0	0
Total Site Assessment (From Part VI above or a local site assessment)	160	42	0	0	0
TOTAL POINTS (Total of above 2 lines)	260	42	0	0	0

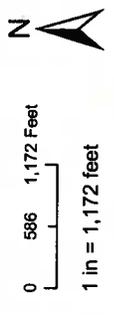
Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Reason For Selection:



Legend

- Streams
- Proposed Tower
- Transmission Tower
- Powerline
- Wetlands
- 0.5 mile Buffer
- 1000 meter Buffer
- 1 mile Buffer
- 330' Buffer



El Dorado WWTP
Wind Turbine Project
Environmental Assessment
Project Location Map

URS
8300 College Boulevard, Suite 200
Overland Park, KS 66210

DRAWN BY KDS	CHECKED BY CLA	APPROVED BY DLK
PROJECT No. —	DATE 9/27/2010	DRAWING No. —1

Attachment C-7: Native American Tribes

Iowa Tribe of Kansas and Nebraska



Iowa Tribe of Kansas and Nebraska

3345 B Thrasher Road
White Cloud, Kansas 66094
(785) 595-3258 or (785) 595-3259
Fax (785) 595-6610

October 6, 2010

Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

Thank you for your correspondence dated September 22, 2010 concerning the following project:

RE: El Dorado Wind Turbine Project, Kansas (Butler County)

The Iowa Tribe of Kansas and Nebraska has:

No interest in the area geographically

No comment on the proposed undertaking

No objections to the project as proposed if cleared through the SHPO. However, if human skeletal remains and/or any objects falling under NAGPRA are uncovered during construction, please stop immediately and notify the proper NAGPRA Representative.

An objection requires additional project information. Please send the following:

Sincerely,

Alan Kelley, Vice Chairman
Iowa Tribe Executive Committee

Kickapoo Tribe in Kansas

" A Sovereign People "

KICKAPOO TRIBE IN KANSAS

1107 Goldfinch Road • P.O. Box 271

Horton, Kansas 66439-0271

Toll Free: 877-864-2746

Office: 785-486-2131

Fax: 785-486-2801

SUBJECT: SECTION 106 RESPONSE

NOTIFICATION DATE: 9/22/2010

LOCATION: Butler County, Kansas

PROJECT #: El Dorado Wind Project

TO: Amy VanDercook

No further Section 106 consultation is required
Concurrence of "no effect" or "no adverse effect" to
historic structures or culturally significant sites (as
defined in 36 CFR 800) is granted.

You may proceed with construction, but if there are
any burial sites or other cultural properties discovered
in the area, please notify this office or your State
Historical Society immediately.

Additional information required:

FROM:

Kickapoo Tribe in Kansas

Mark Kahbeah

Mark Kahbeah

Date: 27-Sep-10

Osage Nation



TRIBAL HISTORIC PRESERVATION OFFICE

Date: December 16, 2010

File: 1011-472KS-10

RE: Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas

Robin L. Sweeney
NEPA Compliance Officer
Golden Field Office
1617 Cole Boulevard
Golden, CO 80401-3393

Dear Ms. Sweeney,

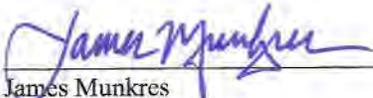
The Osage Nation Historic Preservation Office has evaluated your submission and concurs that the proposed Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas most likely will **not adversely affect properties of cultural or sacred significance to the Osage Nation**. The finding of this S106 review has resulted in a determination of "No Properties."

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d) (6) (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 concurs that as a part of the scoping process the DOE fulfilled NHPA and NEPA compliance by consulting with the Osage Nation Historic Preservation Office in regard to the proposed project Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas.**

The Osage Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that the proposed project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, or Osage law. **If, however, artifacts or human remains are discovered during project construction, we ask that work cease immediately and the Osage Nation Historic Preservation Office be contacted.**

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.


Dr. Andrea A. Hunter
Tribal Historic Preservation Officer


James Munkres
Archaeologist I

Ferro, James

From: Van Dercook, Amy [amy.vandercook@go.doe.gov]
Sent: Tuesday, November 30, 2010 7:36 PM
To: Charles_Arthur@URSCorp.com; Ferro, James
Cc: Kurt Bookout
Subject: FW: El Dorado Wind Turbine, Butler Co., KS

Attachments: Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant.pdf; Figures from Appendix.pdf; Osage Nation Letter 10.7.10.pdf



Archeological



Figures from



Osage Nation

Survey of the Pr... Appendix.pdf (7 M...Letter 10.7.10.pd...

Please see correspondence with Osage attached and below.

Thanks,
Amy

-----Original Message-----

From: Van Dercook, Amy
Sent: Tuesday, November 30, 2010 5:36 PM
To: 'Andrea Hunter'
Subject: RE: El Dorado Wind Turbine, Butler Co., KS

Dear Dr. Hunter:

Please see the attached 2005 Archeological Survey for the El Dorado Water Treatment Plant. The proposed wind turbine location is attached. Please forward to James Munkres, as per his letter request.

Thank you,

Amy Van Dercook, P.G.
U.S. Department of Energy | Golden Field Office
1617 Cole Blvd., Golden, CO 80401-3393
Phone: 720.356.1666 | Mobile: 720.233.5392
Email: amy.vandercook@go.doe.gov

-----Original Message-----

From: Andrea Hunter [mailto:ahunter@osage tribe.org]
Sent: Wednesday, October 13, 2010 12:29 PM
To: Van Dercook, Amy
Subject: El Dorado Wind Turbine, Butler Co., KS

Dear Ms. VanDercook,

The Osage Nation has received the notification regarding the El Dorado Wind Turbine Project located in Butler County, Kansas. As this is former Osage Reservation land, we have a concern for this location. Please provide the report of the cultural resources survey conducted in 2005 by Wichita State University so that we may use this in our assessment.

Thank you.

Dr. Andrea A. Hunter

Tribal Historic Preservation Officer

Osage Nation

627 Grandview

Pawhuska, Oklahoma 74056

Office: (918) 287-5328

Fax: (918) 287-5376



David Kocour /OverlandPark /URSCorp
10/13/2010 03:51 PM

To David Kocour/OverlandPark/URSCorp@URSCORP
cc
bcc
Subject Fw: El Dorado Wind Turbine, Butler Co., KS

-----Original Message-----

From: Andrea Hunter [<mailto:ahunter@osage-tribe.org>]
Sent: Wednesday, October 13, 2010 12:29 PM
To: Van Dercook, Amy
Subject: El Dorado Wind Turbine, Butler Co., KS

Dear Ms. VanDercook,

The Osage Nation has received the notification regarding the El Dorado Wind Turbine Project located in Butler County, Kansas. As this is former Osage Reservation land, we have a concern for this location. Please provide the report of the cultural resources survey conducted in 2005 by Wichita State University so that we may use this in our assessment.

Thank you.

Dr. Andrea A. Hunter

Tribal Historic Preservation Officer

Osage Nation

627 Grandview

Pawhuska, Oklahoma 74056

Office: (918) 287-5328

Fax: (918) 287-5376



TRIBAL HISTORIC PRESERVATION OFFICE

Date: October 7, 2010

File: 1011-472KS-10

RE: Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas

Robin L. Sweeney
NEPA Compliance Officer
Golden Field Office
1617 Cole Boulevard
Golden, CO 80401-3393

Dear Ms. Sweeney,

The Osage Nation Historic Preservation Office has received notification and accompanying information for the proposed project listed as Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas. The Osage Nation requests a copy of the Phase I cultural resources survey conducted in 2005.

In accordance with the National Historic Preservation Act, (NHPA) [16 U.S.C. 470 §§ 470-470w-6] 1966, undertakings subject to the review process are referred to in S101 (d)(6)(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 previously conducted Phase I cultural resources survey that includes the proposed Department of Energy City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project in El Dorado, Butler County, Kansas.

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.


James Munkres
Archaeologist I

Prairie Band Potawatomi

FW: Project: Ed Dorado Wind Turbine, Kansas (Butler County)

Van Dercook, Amy [amy.vandercook@go.doe.gov]

Sent: Thursday, October 28, 2010 3:31 PM

To: Charles_Arthur@URSCorp.com

Cc: David_Kocour@URSCorp.com; Ferro, James

Please add this to EA.

Thanks!

Amy

-----Original Message-----

From: Linda Yazzie [<mailto:LindaY@pbpnation.org>]

Sent: Thursday, October 28, 2010 9:32 AM

To: Van Dercook, Amy

Subject: Project: Ed Dorado Wind Turbine, Kansas (Butler County)

On behalf of our National Historic Preservation Act (NHPA) Representative, Chairman Steve Ortiz, with the Prairie Band Potawatomi Nation, I would like to thank you for your recent correspondence regarding the NHPA Sections 106 and 110. This correspondence is for the following proposed development area:

Project: Ed Dorado Wind Turbine, Kansas (Butler County)

We have no objections to this proposed development area, and at this time, unaware of any historical cultural resources in this area as well. However, we would like to request to be immediately notified of any inadvertent discoveries are uncovered at anytime throughout the various phases of the project.

We look forward to working with you and please contact our office if we can be of further assistance. You can reach Chairman Ortiz at (785) 966-4007, or myself, Linda Yazzie, Legislative Assistant, at (785) 966-4008. Also, our fax # is (785) 966-4009.

Thank you.

Linda Yazzie

Prairie Band Potawatomi Nation

Legislative Assistant

Office of Tribal Chairman

16281 Q Rd

Mayetta, KS 66509

(785) 966-4008

Email: linday@pbpnation.org <<mailto:linday@pbpnation.org>>

All Tribal Scoping/Consultation Letters



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Leon Campbell, Chairman
Iowa Tribe of Kansas and Nebraska
3345 Thrasher Road
White Cloud, Kansas 66094

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Campbell:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

The proposed turbine location will be surrounded by agricultural cropland with predominantly rural residential structures within one mile of the property. It is estimated that the proposed turbine would consist of a 230-foot (70-meter) tower and a 194-foot (59-meter) rotor for a total turbine height of approximately 330 feet (100 meters) above ground level.

DOE has determined that the proposed project would have no effect on cultural or tribal resources. An "Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant" was completed on June 8, 2005 by the Wichita State University Department of Anthropology during the initial construction of the water treatment facility. The area of the proposed wind turbine site was evaluated as part of that survey. The report identified three new archeological sites and two previously recorded sites, all of which were located on the western portion of the property near the east bank of the Walnut River. The report stated that no known cultural resources were identified in the area of the proposed wind turbine site. The Kansas State Historic Preservation Office (SHPO) reviewed this report and its cultural resources files for the area and determined that the proposed project "should have no effect on properties listed in the National Register of Historic Places or otherwise identified" in their files.



An environmental assessment (EA) is currently being prepared for the proposed wind turbine project by the Department's Golden Field Office to meet the requirements of the National Environmental Policy Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including cultural resources.

DOE is initiating consultation and requesting information your tribe may have on properties of traditional and cultural significance within the vicinity of the proposed facility and any comments or concerns you have on the potential for this proposed project to affect those properties.

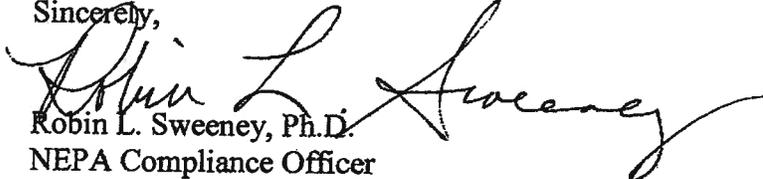
This information is being requested to aid in the preparation of that Environmental Assessment and to meet our obligations under Section 106 of the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act of 1990. If you have any such information, require additional information, or have any questions or comments about that project, please contact Ms. Amy Van Dercook of the Golden Field Office on or before **October 6, 2010** at the contact information below. If no response is received by the due date, it will be assumed that you have no comments regarding this project and consultation will be considered terminated.

*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amv.vandercook@go.doe.gov*

DOE will include correspondence with your tribe in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time we anticipate a 15-day public comment period for this proposed project.

Thank you in advance for your consideration.

Sincerely,


Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Guy Munroe, Chair
Kaw Nation
P.O. Box 50
Kaw City, OK 74641

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Munroe:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

The proposed turbine location will be surrounded by agricultural cropland with predominantly rural residential structures within one mile of the property. It is estimated that the proposed turbine would consist of a 230-foot (70-meter) tower and a 194-foot (59-meter) rotor for a total turbine height of approximately 330 feet (100 meters) above ground level.

DOE has determined that the proposed project would have no effect on cultural or tribal resources. An "Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant" was completed on June 8, 2005 by the Wichita State University Department of Anthropology during the initial construction of the water treatment facility. The area of the proposed wind turbine site was evaluated as part of that survey. The report identified three new archeological sites and two previously recorded sites, all of which were located on the western portion of the property near the east bank of the Walnut River. The report stated that no known cultural resources were identified in the area of the proposed wind turbine site. The Kansas State Historic Preservation Office (SHPO) reviewed this report and its cultural resources files for the area and determined that the proposed project "should have no effect on properties listed in the National Register of Historic Places or otherwise identified" in their files.



An environmental assessment (EA) is currently being prepared for the proposed wind turbine project by the Department's Golden Field Office to meet the requirements of the National Environmental Policy Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including cultural resources.

DOE is initiating consultation and requesting information your tribe may have on properties of traditional and cultural significance within the vicinity of the proposed facility and any comments or concerns you have on the potential for this proposed project to affect those properties.

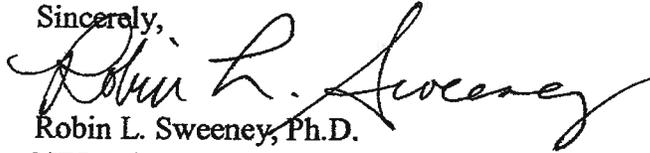
This information is being requested to aid in the preparation of that Environmental Assessment and to meet our obligations under Section 106 of the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act of 1990. If you have any such information, require additional information, or have any questions or comments about that project, please contact Ms. Amy Van Dercook of the Golden Field Office on or before **October 6, 2010** at the contact information below. If no response is received by the due date, it will be assumed that you have no comments regarding this project and consultation will be considered terminated.

*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doe.gov*

DOE will include correspondence with your tribe in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time we anticipate a 15-day public comment period for this proposed project.

Thank you in advance for your consideration.

Sincerely,



Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Arlan Whitebird, Chairman
Kickapoo Tribe of Indians in Kansas
1107 Goldfinch Road
Horton, Kansas 66439

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Whitebird:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

The proposed turbine location will be surrounded by agricultural cropland with predominantly rural residential structures within one mile of the property. It is estimated that the proposed turbine would consist of a 230-foot (70-meter) tower and a 194-foot (59-meter) rotor for a total turbine height of approximately 330 feet (100 meters) above ground level.

DOE has determined that the proposed project would have no effect on cultural or tribal resources. An "Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant" was completed on June 8, 2005 by the Wichita State University Department of Anthropology during the initial construction of the water treatment facility. The area of the proposed wind turbine site was evaluated as part of that survey. The report identified three new archeological sites and two previously recorded sites, all of which were located on the western portion of the property near the east bank of the Walnut River. The report stated that no known cultural resources were identified in the area of the proposed wind turbine site. The Kansas State Historic Preservation Office (SHPO) reviewed this report and its cultural resources files for the area and determined that the proposed project "should have no effect on properties listed in the National Register of Historic Places or otherwise identified" in their files.



An environmental assessment (EA) is currently being prepared for the proposed wind turbine project by the Department's Golden Field Office to meet the requirements of the National Environmental Policy Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including cultural resources.

DOE is initiating consultation and requesting information your tribe may have on properties of traditional and cultural significance within the vicinity of the proposed facility and any comments or concerns you have on the potential for this proposed project to affect those properties.

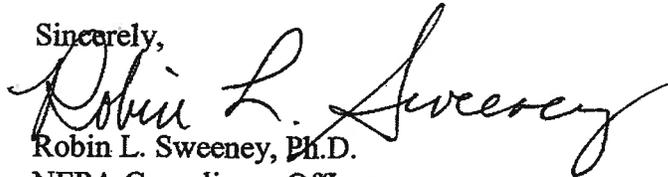
This information is being requested to aid in the preparation of that Environmental Assessment and to meet our obligations under Section 106 of the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act of 1990. If you have any such information, require additional information, or have any questions or comments about that project, please contact Ms. Amy Van Dercook of the Golden Field Office on or before **October 6, 2010** at the contact information below. If no response is received by the due date, it will be assumed that you have no comments regarding this project and consultation will be considered terminated.

*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doe.gov*

DOE will include correspondence with your tribe in an appendix to the EA. DOE will send a copy of the draft EA to your office and respond to any specific comments you may have. At this time we anticipate a 15-day public comment period for this proposed project.

Thank you in advance for your consideration.

Sincerely,


Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Jim Gray, Principal Chief
Osage Nation of Oklahoma
P.O. Box 53, 627 Grandview
Pawhuska, OK 74056

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Gray:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

The proposed turbine location will be surrounded by agricultural cropland with predominantly rural residential structures within one mile of the property. It is estimated that the proposed turbine would consist of a 230-foot (70-meter) tower and a 194-foot (59-meter) rotor for a total turbine height of approximately 330 feet (100 meters) above ground level.

DOE has determined that the proposed project would have no effect on cultural or tribal resources. An "Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant" was completed on June 8, 2005 by the Wichita State University Department of Anthropology during the initial construction of the water treatment facility. The area of the proposed wind turbine site was evaluated as part of that survey. The report identified three new archeological sites and two previously recorded sites, all of which were located on the western portion of the property near the east bank of the Walnut River. The report stated that no known cultural resources were identified in the area of the proposed wind turbine site. The Kansas State Historic Preservation Office (SHPO) reviewed this report and its cultural resources files for the area and determined that the proposed project "should have no effect on properties listed in the National Register of Historic Places or otherwise identified" in their files.



An environmental assessment (EA) is currently being prepared for the proposed wind turbine project by the Department's Golden Field Office to meet the requirements of the National Environmental Policy Act of 1969. The EA will address the potential effects of the proposed project on the natural and human environment, including cultural resources.

DOE is initiating consultation and requesting information your tribe may have on properties of traditional and cultural significance within the vicinity of the proposed facility and any comments or concerns you have on the potential for this proposed project to affect those properties.

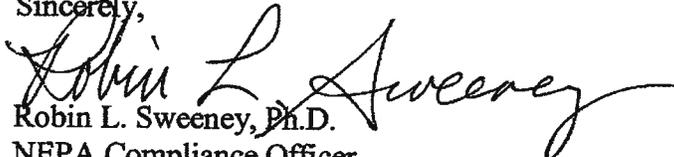
This information is being requested to aid in the preparation of that Environmental Assessment and to meet our obligations under Section 106 of the National Historic Preservation Act and the Native American Graves Protection and Repatriation Act of 1990. If you have any such information, require additional information, or have any questions or comments about that project, please contact Ms. Amy Van Dercook of the Golden Field Office on or before **October 6, 2010** at the contact information below. If no response is received by the due date, it will be assumed that you have no comments regarding this project and consultation will be considered terminated.

*Amy VanDercook, P.G.
NEPA Document Manager
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Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Dr. Andrea Hunter, Tribal Historical Preservation Officer
Osage Nation of Oklahoma
P.O. Box 53, 627 Grandview
Pawhuska, OK 74056

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Dr. Hunter:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

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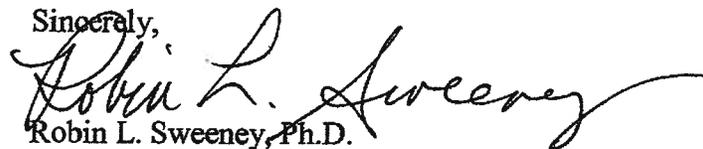
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[*amv.vandercook@go.doe.gov*](mailto:amv.vandercook@go.doe.gov)

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Thank you in advance for your consideration.

Sincerely,



Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Steve Ortiz, Chairman
Prairie Band of Potawatomi Nation
16281 Q Road
Mayetta, KS 66509

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Ortiz:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

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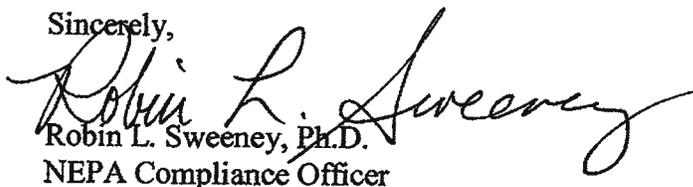
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Thank you in advance for your consideration.

Sincerely,


Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Twen Barton, Chairperson
Sac and Fox Tribe of Missouri in Kansas and Nebraska
Rural Route 1, Box 60
Reserve, KS 66434

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Twen Barton:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

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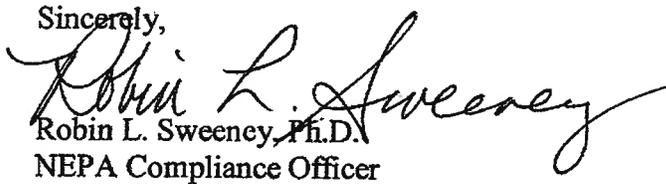
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*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doe.gov*

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Thank you in advance for your consideration.

Sincerely,

Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 22, 2010

Leslie Standing, President
Wichita and Affiliated Tribes
P.O. Box 729
Anadarko, OK 73005

SUBJECT: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Leslie Standing:

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

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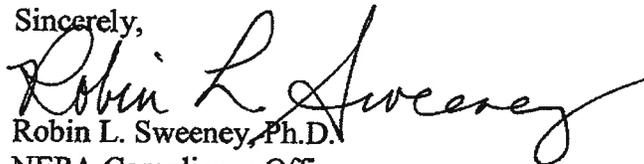
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Sincerely,


Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments – Figures 1 & 2

FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location



FIGURE 2
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Proposed Turbine Location



- Suggested location
- Available location

Attachment C-8: U.S. Army Corps of Engineers



"Van Dercook, Amy"
<amy.vandercook@go.doe.gov>
09/28/2010 09:19 AM

To "Ferro, James" <JFerro@icfi.com>,
David_Kocour@URSCorp.com
cc
bcc

Subject FW: El Dorado Wind Turbine Project, Kansas (Butler County)

History:  This message has been forwarded.

Please see written response from USACE below, for administrative record. Also, original message had project location and FEMA maps attached so they know exactly where the project is proposed.

Thanks,
Amy

-----Original Message-----

From: Penaluna, Stephen H NWK [mailto:Stephen.H.Penaluna@usace.army.mil]
Sent: Tuesday, September 28, 2010 8:16 AM
To: Van Dercook, Amy
Subject: RE: El Dorado Wind Turbine Project, Kansas (Butler County)

Ms. Van Dercook,

As previously expressed in our earlier conversation, based on the information provided, I do not contemplate the need for Corps authorization for the subject project.

Stephen

Stephen H. Penaluna
Regulatory Project Manager/Team Leader
Kansas State Regulatory Office
(316) 322-8247 (Ofc)
(316) 322-8259 (Fax)

-----Original Message-----

From: Van Dercook, Amy [mailto:amy.vandercook@go.doe.gov]
Sent: Monday, September 27, 2010 11:41 AM
To: Penaluna, Stephen H NWK
Subject: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Penaluna:

As per discussions between Thomas Schumann (USACE) and Kurt Bookout (Director of Public Utilities for El Dorado), the Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed project location is just west of the existing wastewater treatment plant (Figure 2).

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The proposed location is within the 100-year floodplain (and floodway area), according to latest FEMA map (See attached FIRM map and legend). DOE is also coordinating with FEMA, concerning the project. The proposed project location is over 1,000 feet west of the Walnut River and appears to be uplands; therefore, no significant impact to wetlands and waters of the U.S. is expected.

DOE is in the process of preparing an Environmental Assessment for this project, as well as a Floodplain Assessment, based on the project's proposed location. As part of our project preparation, you and Thomas Schumann were identified as a project stakeholders and provided our Notice of Scoping and Proposed Floodplain Action postcards which were sent out on September 13, 2010. Seeing as this is a Recovery Act project, we are working diligently to expedite our process and would like to affirmatively determine if we would require any permitting, site visit and/or consultation on wetlands and/or floodplain management matters with the USACE, in advance of the Draft EA being put forward for public review in early November. Feel free to email me with any USACE permit requirements or for any additional information concerning the project.

Thank you for your consideration,
Amy Van Dercook, P.G.
U.S. Department of Energy | Golden Field Office
1617 Cole Blvd., Golden, CO 80401-3393
Phone: 720.356.1666 | Mobile: 720.233.5392
Email: amy.vandercook@go.doe.gov



"Van Dercook, Amy"
<amy.vandercook@go.doe.gov>
09/27/2010 11:44 AM

To "Ferro, James" <JFerro@icfi.com>,
David_Kocour@URSCorp.com
cc
bcc

Subject FW: El Dorado Wind Turbine Project, Kansas (Butler County)

History: ✉ This message has been replied to and forwarded.

Please see email below for your files and admin record. Thomas Schumann (USACE) identified Steve Penaluna as contact for written response.

Thanks,
Amy

-----Original Message-----

From: Van Dercook, Amy
Sent: Monday, September 27, 2010 10:41 AM
To: 'stephen.h.penaluna@usace.army.mil'
Subject: El Dorado Wind Turbine Project, Kansas (Butler County)

Dear Mr. Penaluna:

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U.S. Department of Energy | Golden Field Office

1617 Cole Blvd., Golden, CO 80401-3393

Phone: 720.356.1666 | Mobile: 720.233.5392

Email: amy.vandercook@go.doe.gov



FEMA 20015C0386E1.pdf FEMA_legend 20015C0386E.pdf Figures 1 and 2.pdf

The Flood Insurance Study report for this jurisdiction, if available in this community, contact your Insurance Program at 1-800-598-6620.



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96°50'37.50"

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A**
No Base Flood Elevations determined.
- ZONE AE**
Base Flood Elevations determined.
- ZONE AH**
Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO**
Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR**
Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently de-certified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99**
Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V**
Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE**
Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X
Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X
Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D
Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

OTHERWISE PROTECTED AREAS (OPAs)

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet
- Base Flood Elevation value where uniform within zone;

(EL 987)



PANEL 0386E

FIRM
FLOOD INSURANCE RATE MAP
BUTLER COUNTY,
KANSAS
AND INCORPORATED AREAS

PANEL 038 OF 900
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER 20015C0386E
EFFECTIVE DATE JUNE 2, 2009

Map Number 20015C0386E
Effective Date JUNE 2, 2009

Federal Emergency Management Agency

This is an official study of a portion of the National Flood Insurance Program. It was prepared using FIRM On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the map. For the latest product information about National Flood Insurance Program maps, visit the FEMA Flood Map Store at www.fema.gov

FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location

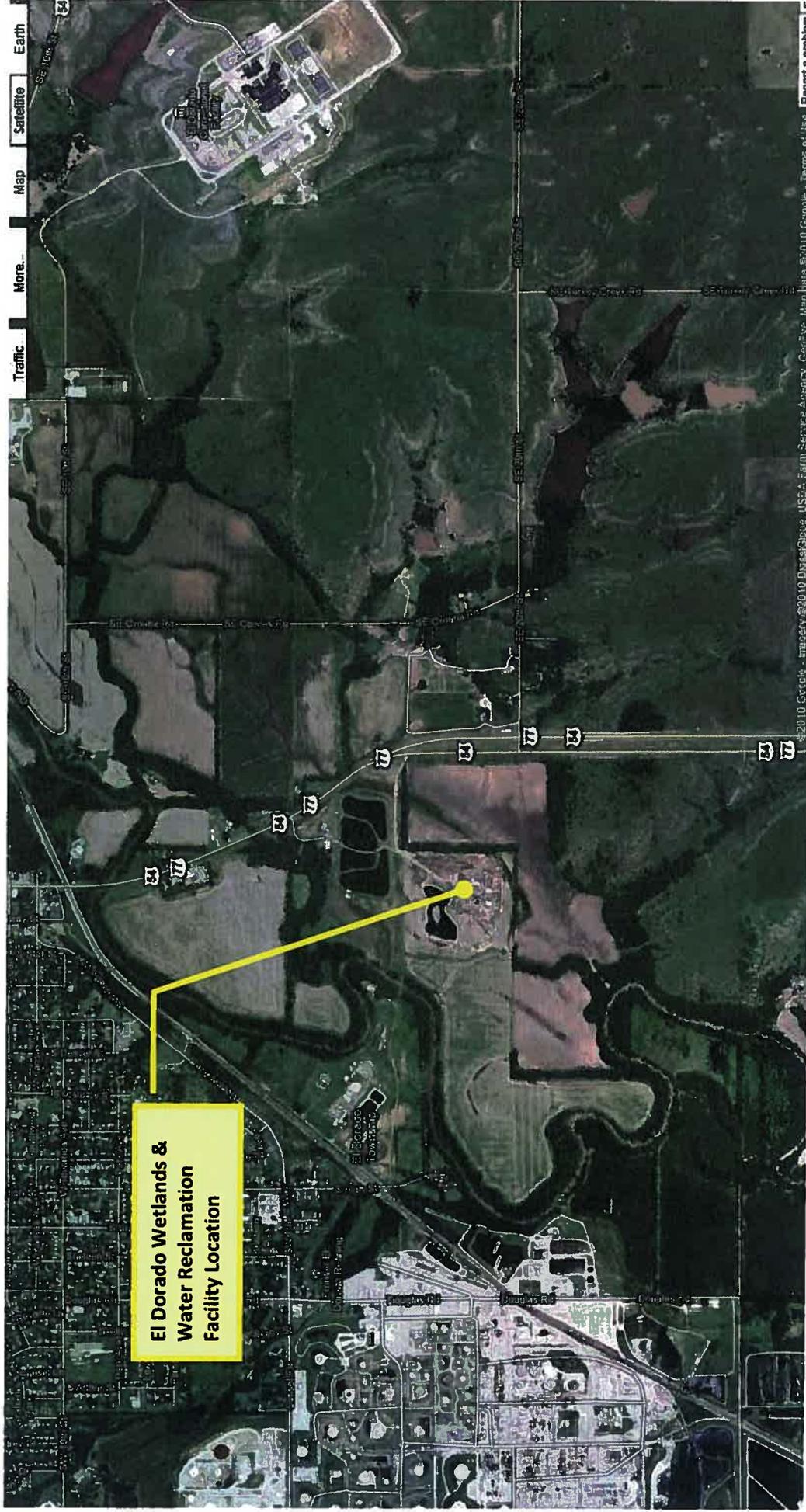


FIGURE 2
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Proposed Turbine Location



- Suggested location
- Available location

Attachment C-9: U.S. Environmental Protection Agency



David Kocour /OverlandPark /URSCorp
10/13/2010 04:16 PM

To David Kocour/OverlandPark/URSCorp,
cc
bcc
Subject Fw: Comments on the Notice of Scoping for the El Dorado ,
Kansas, Wind Turbine Project, Environmental Assessment

-----Original Message-----

From: Shepard.Larry@epamail.epa.gov
[mailto:Shepard.Larry@epamail.epa.gov]
Sent: Monday, September 27, 2010 3:33 PM
To: Van Dercook, Amy
Cc: Cothern.Joe@epamail.epa.gov; Curtis.Glenn@epamail.epa.gov
Subject: Comments on the Notice of Scoping for the El Dorado, Kansas,
Wind Turbine Project, Environmental Assessment

Thank you for the opportunity to review your September 13, 2010, letter and enclosures announcing the scoping process for this project. DOE is considering funding for the Kansas Corporation Commission to support construction of a single, one megawatt wind turbine by the City of El Dorado at the El Dorado Wetlands and Water Reclamation Facility. The energy generated by this project would provide power to the City's wastewater treatment plant on-site. We were notified of this public scoping through a postcard sent to us dated September 13. I will be serving as the primary reviewer of this Environmental Assessment (EA) for US EPA. If any additional information becomes available prior to the issuance of the draft EA, please direct that information to my attention. I would also appreciate notification by your office when the draft EA is posted on your website.

I have no specific comments regarding this project at this stage, however, I suggest that you develop the range of options (or alternatives) to address the project's purpose and need rather than the agency's purpose and need as stated on page 2, second paragraph, of the September 13 letter. In addition, if this project could be designed to provide more power than is required by the wastewater treatment facility on a constant basis, the range of alternatives might include at least one which could provide power to the city for other or additional city uses (e.g., the neighboring correctional facility).

I look forward to reviewing the draft EA.

Larry Shepard
NEPA Team/Interstate Waters
US EPA Region 7
901 N. 5th Street
Kansas City, Kansas 66101
913-551-7441

Attachment C-10: City of El Dorado



EL DORADO

THE FINE ART OF LIVING WELL

DETERMINATION OF THE BOARD OF ZONING APPEALS

Variance Case BZA-10-002
December 15, 2010

On December 15, 2010, the City of El Dorado Board of Zoning Appeals, at its regular meeting, approved the structure height variance requested from Section 5 of the Zoning Ordinance of the City of El Dorado, Kansas, for the property at 105 Wetlands Drive, as requested by the City of El Dorado.

In approving this request, the Board of Zoning Appeals found that the variance did fulfill the necessary five conditions for variance approval.

If you have any questions, please contact me at 321-9100.

Matthew S. Rehder
City of El Dorado

A CITY OF CHARACTER

220 E. First | PO Box 792 | El Dorado, Ks 67042 | Phone 316.321.9100 | Fax 316.321.6282

www.eldoks.com

Affidavit of Publication

State of Kansas, Butler County, ss.

JULIE A. CLEMENTS, of lawful age, being duly sworn, says that she is the EDITOR of LIBERTY GROUP KANSAS HOLDINGS, INC. DBA THE EL DORADO TIMES, a daily newspaper, printed in the State of Kansas, and published in Butler County, Kansas, with a general paid circulation on a monthly basis in Butler County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is a daily published at least weekly 50 times a year; has been so published continuously and uninterruptedly in said county and state for a period of five years prior to the first publication of said notice; and has been admitted at the post office of El Dorado, Kansas in said County as second class matter.

That the attached notice is a true copy thereof and was published in the regular and entire issue of said newspaper for 1 publication thereof being made as aforesaid on the 22nd day of November 2010.

Julie A. Clements
Julie A. Clements, Editor

Subscribed and sworn to before me, this 23rd day of November, 2010:

April Wickwire
April Wickwire, Notary Public

My commission expires: October 13, 2014



41.65

41.65

(First Published in
The El Dorado Times
Monday, Nov. 22, 2010)
ORDINANCE NO. 1111
AN ORDINANCE ZONING
CERTAIN LAND IN THE CITY
OF EL DORADO, KANSAS I-1
LIGHT INDUSTRIAL
DISTRICT AND AMENDING
THE ZONING MAP OF THE
CITY
WHEREAS, it is determined by
the Governing Body of the
City of El Dorado, Kansas, that
certain property located
|
within said City should be
zoned.
**NOW, THEREFORE, BE IT
ORDAINED BY THE
GOVERNING BODY OF THE
CITY OF EL DORADO,
KANSAS:**
Section 1: That the following
described real estate should
be and is hereby zoned I-1
Light Industrial District:
SW/4 SE/4; S112 SW4 S
& E WALNUT RIV;
S11, T26, R05E
El Dorado, Butler
County, Kansas
Section 2: The Governing
Body hereby directs that the
City Zoning map be amended
to conform herew
Section 3: This Ordinance
shall take effect and be in full
force from and after its
publication once in the
official city newspaper.
PASSED by the Governing
Body of the City of El Dorado,
Kansas, and
APPROVED by its Mayor, this
15th day of November, 2010.
Tom McKibban, Mayor
ATTEST
Tabitha Sharp, City Clerk

Affidavit of Publication

State of Kansas, Butler County, ss.

JULIE A. CLEMENTS, of lawful age, being duly sworn, says that she is the EDITOR of LIBERTY GROUP KANSAS HOLDINGS, INC. DBA THE EL DORADO TIMES, a daily newspaper, printed in the State of Kansas, and published in Butler County, Kansas, with a general paid circulation on a monthly basis in Butler County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

(First Published in
The El Dorado Times
Monday, Nov. 22, 2010)
ORDINANCE NO. G-1112

WHEREAS, an application has been filed with the El Dorado Planning Commission requesting a Special Use Permit to allow a wind power generating system on property located at 105 Wetlands Drive, and;

WHEREAS, on the 28th day of October, 2010, at a Planning Commission meeting duly convened, the Planning Commission voted to approve and does hereby recommend that the Governing Body approve the Special Use Permit.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF EL DORADO, KANSAS:

Section 1. That the recommendation of the Planning Commission be upheld and a Special Use Permit is hereby granted to the City of El Dorado to allow a wind power generating system in an I-1 Light Industrial District, at the following legally described property:

Beginning at a point at the SW/4 SE/4 of Section 11, Township 26, Range 5 East, thence S112 SW4 S & E Walnut River

The property is commonly known as 105 Wetlands Drive.

Section 2. If any code, regulation, or ordinance of the City of El Dorado contradicts any portion of this ordinance, only the portion contradicted is invalid.

Section 3. This ordinance shall be in full force and effect after its publication once in the official city newspaper.

PASSED by the Governing Body of the City of El Dorado, Kansas, on this 15th day of November 2010.

Tom McKibban, Mayor

ATTEST:
Tabitha Sharp, City Clerk
APPROVED AS TO FORM:
Jim Murfin, City Attorney

is a daily published at least weekly 50 times a year; has been so published continuously in said county and state for a period of five years prior to the first publication has been admitted at the post office of El Dorado, Kansas in said County as second

notice is a true copy thereof and was published in the regular and entire issue of said publication thereof being made as aforesaid on the 22nd day of November 2010.

Julie A. Clements
Julie A. Clements, Editor

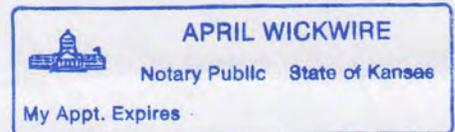
in to before me, this 23rd day of November, 2010:

April Wickwire
April Wickwire, Notary Public

My commission expires: October 13, 2014

55.25

55.25





EL DORADO

CITY OF EL DORADO
PLANNING COMMISSION/BZA
APPLICATION

This application must be turned in at least twenty-five days prior to the scheduled meeting date. A list of names and addresses of all property owners within 200 feet of any property lines must also be provided.

1. 105 Westlands Drive, El Dorado, KS 67042
Location of Property
2. City of El Dorado P.O. Box 792 316-321-9100
Owner of Property Mailing Address Phone
3. same
Applicant Mailing Address Phone
4. SW/4 SE/4, S112 SW/4 S-E Walnut River, Sect 11 Township 26 Range 5 East
Legal Description (from property deed)

Re zoning: Present zoning _____ Requested zoning _____

Special Use: To allow wind-power generating system on A6 land (WWTP)

Variance: To allow _____

Notes: _____

Applicant Please Read

I hereby certify that I have read and examined this application and know the same to be true and correct. I realize that this application cannot be processed unless it is completely filled in, is accompanied by the list of property owners within 200 feet of above property and is accompanied by the appropriate fees. We authorize unannounced inspections of said property by City for the purpose of collecting information to review and analyze this request. We acknowledge that the Planning Commission, Board of Zoning Appeals or Governing Body shall have authority to impose such conditions as it deems necessary in order to serve the public interest and welfare.

10. Signature of Applicant [Signature] Date 9/21/10
Kurt Beckert

-----Staff Use Only-----

Case No. _____ Filing Fee _____ Receipt No. _____

Hearing Date _____ Date Advertised _____ Date Notices Sent _____

PC Recommendation _____ CC Recommendation _____ BZA Recommendation _____

Notes: _____

----- Forwarded by Todd Bond/OverlandPark/URSCorp on 01/04/2011 02:03 PM -----

"Scott Rickard" <srickard@city.eldoks.com>

To <Todd_Bond@URSCorp.com>

cc "Bookout, Kurt" <wildcat@eldoks.com>

10/22/2010 08:19 AM

Subject RE: Wind Turbine permitting with regards to floodplain.

Todd,

The City of El Dorado anticipates that there will be no adverse affects regarding permitting or flood plain issues with the conceptual construction of a wind turbine at the El Dorado Water Treatment Facility.

If you have any questions please let me know

Thanks

Scott Rickard
Asst. City Engineer
City of El Dorado, KS
316-321-9100

From: Todd_Bond@URSCorp.com [mailto:Todd_Bond@URSCorp.com]

Sent: Thursday, October 21, 2010 3:06 PM

To: sdr@eldoks.com

Subject: Wind Turbine permitting with regards to floodplain.

Mr. Rickard,

The DOE has asked for a statement from the floodplain manager indicating that at this paramilitary stage there no anticipated permitting issues with the location of the wind turbine with regards to the floodplain and or floodway.

If you have any questions, please give me a call.

Thanks.

Todd Bond, P.E., CFM
URS Corporation
8300 College Blvd., Suite 200
Overland Park, KS 66210
Direct: 913-344-1010
Main: 913-344-1000
Fax: 913-344-1011
Email: todd_bond@urscorp.com

This e-mail and any attachments contain URS Corporation confidential information that may be proprietary or privileged. If you receive this message in error or are not the intended recipient, you should not retain, distribute, disclose or use any of this information and you should destroy the e-mail and any attachments or copies.



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

October 6, 2010

Scott Rickard, Assistant City Engineer
City of El Dorado, Engineering Department
220 East First, P.O. Box 792
El Dorado, Kansas 67042

SUBJECT: El Dorado Wind Turbine Project, Butler County, Kansas

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project. The City of El Dorado is proposing to construct and install a single one megawatt (MW) wind turbine at the City's Wetlands and Water Reclamation Facility located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles (1.1 kilometers) south of El Dorado adjacent to Highway 77 (Figure 1). The proposed wind energy project would provide electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hours (MWh) of energy each year. The proposed project location is just west of the existing wastewater treatment plant (Figure 2). The approximate center point of the proposed wind turbine, near the western slope of the landfill, would be Latitude and Longitude, 37° 47' 49" N and 96° 51' 04" W.

It is estimated that the proposed turbine would consist of a 230 foot (70 meter) tower and a 194 foot (59 meter) diameter rotor for a total turbine height of approximately 330 feet (100 meters) above ground level. DOE has considered a 0.5 mile (0.8 kilometers) radius Area of Potential Effects (APE) from the base of the proposed site. The proposed turbine location will be surrounded immediately by agricultural cropland and the water treatment facility. A large commercial refinery facility is located approximately 0.75 miles (1.2 kilometers) to the west of the site. The southern edge of residential development in the city of El Dorado is located approximately 0.75 miles (1.2 kilometers) to the northwest of the site. The areas to the north, east and south are predominantly agricultural with scattered rural residential structures within one mile of the site.

The proposed location is within the 100-year floodplain (and floodway area), according to latest FEMA map (Figure 3).

DOE is in the process of preparing an Environmental Assessment (EA) for this project, as well as a Floodplain Assessment, based on the project's proposed location. As part of our project preparation, you were identified as a project stakeholder and provided our Notice of Scoping and Proposed Floodplain Action postcard which was sent out on September 13, 2010.

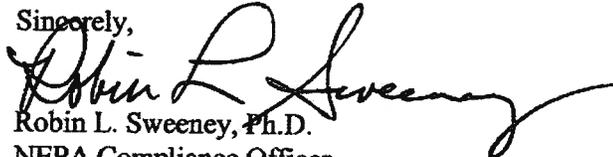
DOE is aware that a No-Rise Certification would be required by the City of El Dorado. Since this is a Recovery Act project, we are working diligently to expedite our process and would like to affirmatively **determine if we would require any additional permitting, site visit and/or consultation on floodplain management matters with the City of El Dorado**, in advance of the Draft EA being put forward for public review.

Please forward the results of your review and any requests for additional information to Ms. Amy VanDercook, as soon as possible, at the following:



*Amy VanDercook, P.G.
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
(720) 356-1666
amy.vandercook@go.doc.gov*

Sincerely,



Robin L. Sweeney, Ph.D.
NEPA Compliance Officer

Attachments:

- Figure 1 – Facility location on aerial image**
- Figure 2 – Close-up of proposed project area**
- Figure 3 – FIRM Map**

The Flood Insurance Study report for this jurisdiction.

is available in this community, contact your insurance agent at 1-800-638-6620.



Scale: 1 inch = 150 feet

PANEL 0386E

FIRM FLOOD INSURANCE RATE MAP BUTLER COUNTY, KANSAS AND INCORPORATED AREAS

PANEL 98E OF 900
 FIRM MAP INDEX FOR FIRM PANEL LAYOUT
 CONTAINS: BUTLER COUNTY, KANSAS
 COMBINED: BUTLER COUNTY, KANSAS
 MAP NUMBER: 20016C0386E
 EFFECTIVE DATE: JUNE 2, 2009



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the original map. For more information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.fema.gov

LEGEND

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The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

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OTHER AREAS

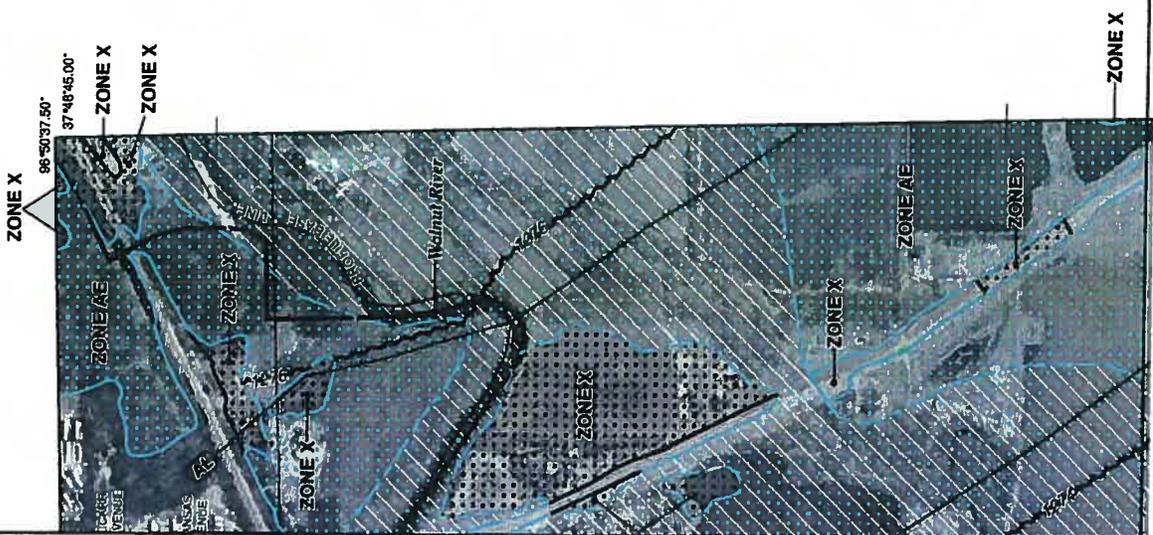
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OTHERWISE PROTECTED AREAS (OPAs)

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- 0.2% annual chance floodplain boundary
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- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- Base Flood Elevation line and value; elevation in feet* (EL 987)
- Base Flood Elevation value where uniform within zone;



The Flood Insurance Study report for this jurisdiction, if available in this community, contact your insurance agent for more information or contact the National Flood Insurance Program at 1-800-638-6620.



SEEK SCALE 1" = 100'

0 150 300 METERS

PANEL 0386E

FIRM
FLOOD INSURANCE RATE MAP
BUTLER COUNTY,
KANSAS
AND INCORPORATED AREAS

PANEL 386 OF 900
 (SEE MAP INDEX FOR FIRM PANEL LAYOUT)
 CONTAINS:
 COMMUNITY NUMBER 00007
 BUTLER COUNTY, KANSAS
 EL DORNADO, CITY OF KANSAS

Notice to User: The Map Number shown below should be used when ordering maps. The Community Number shown below should be used on insurance applications for the subject community.



MAP NUMBER
20015C0386E
 EFFECTIVE DATE
JUNE 2, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location



FIGURE 2
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Proposed Turbine Location



- suggested location
- Available location

APPENDIX D: ANALYSIS AND SUPPORTING DOCUMENTATION

Attachment D-1: Public Involvement

Stakeholder List

STAKEHOLDER LIST
El Dorado Wetlands and Water Reclamation Facility
Wind Turbine Project
(El Dorado, Kansas)

Name	Email	Title	Organization	Address 1	City and State	Zip	Phone
Ron Klataske	aok@audubonofkansas.org	Executive Director	Audubon of Kansas (non-NAS affiliated)	210 Southwind Place	Manhattan, KS	66503	(785) 537-4385
Linda Rundell	Linda_Rundell@blm.gov	Director	BLM, New Mexico State Office	301 Dinosaur Trail (P.O. Box 27115)	Santa Fe, NM	87502-0115	(505) 954-2222
Todd Marci	Marci_Todd@blm.gov	Division Chief	BLM, Planning and NEPA Division	1620 L Street NW, Rm. 850	Washington, DC	20036	(202) 912-7292
Dr. Bill Langley			Butler Community College	901 S. Haverhill	El Dorado, KS	67042	
Will Johnson			Butler County Administrator	205 W. Central, 4 th Floor	El Dorado, KS	67042	
Rod Compton	rcompton@bucoks.com	Director	Butler County Department of Planning and Zoning	121 S. Gordy, Suite 202	El Dorado, KS	67042	(316) 322-4325
Darryl Lutz			Butler County Engineering Department	121 S. Gordy, Suite 200	El Dorado, KS	67042	
			Butler County Health Department	206 N. Griffith	El Dorado, KS	67042	
			Butler County Historical Society/Museum	383 E. Central	El Dorado, KS	67042	
Rod Compton		Planning Director	Butler County Planning and Zoning Coordinator	121 S. Gordy, Suite 202	El Dorado, KS	67042	
Citizens for Clean Energy, Inc	cce-mt@bresnan.net		Citizens for Clean Energy, Inc.	3417 Fourth Avenue, South	Great Falls, MT	59405	(406) 453-0725
Tom McKibban	mavormckibban@eldoks.com	Mayor	City of El Dorado	220 East First, PO Box 792	El Dorado, KS	67042	(316) 321-9100
Kyle McClaren		City Building Inspector	City of El Dorado	220 E. First	El Dorado, KS	67042	
Matt Rehder		City Planning & Zoning Coordinator	City of El Dorado	220 E. First	El Dorado, KS	67042	
Deric Karst		Airport Manager	City of El Dorado Public Works, El Dorado Airport	220 EAST FIRST, PO. BOX 792	El Dorado, KS	67042	(316) 321-1327
Scott Rickard	sdr@eldoks.com	Asst. City Engineer	City of El Dorado, Engineering Department	220 East First, PO Box 792	El Dorado, KS	67042	(316) 321-9100 x151
Ken Nakaten	knakaten@eldoks.com	Fire Chief	City of El Dorado, Fire Department	220 East First, PO Box 792	El Dorado, KS	67042	(316) 321-9100 x201
Matt Rehder	mrehder@eldoks.com	Planning Director	City of El Dorado, Planning and Zoning Department	220 East First, PO Box 792	El Dorado, KS	67042	(316) 321-9100
Steve Penaluna		El Dorado Lake Office	Corps of Engineers	2710 NE Shady Creek Access Road	El Dorado, KS	67042	
			El Dorado Township	525 SW Boyer Road	El Dorado, KS	67042	
Joseph Cothorn	Cothorn.joe@epa.gov	NEPA Team Leader	EPA Region 7 Environmental Services Division	901 North Fifth Street, ENSVNEPA	Kansas City, KS	66101	(913) 551-7148
Wolfgang Brandner	brandner.wolfgang@epa.gov	EPA Region 7 Tribal Program Coordinator	EPA Region 7 Office of Policy and Management/POIS	901 N 5th Street	kansas City, KS	66101	(913) 551- 7381
Mr. Thomas Cuddy	thomas.cuddy@faa.gov		Federal Aviation Administration- Office of Environment and Energy	800 Independence Avenue, SW, Room 900	Washington, DC	20591	(202) 493-4018
Ms Nardos Willis		State Airport Engineer	Federal Aviation Administration, Central Region	901 Locust St, ACE 621B Room 335	Kansas City, MO	64106	
Julie Grauer	julie.grauer@dhs.gov	Natural Hazards Program Specialist	FEMA Region VII	9221 Ward Pkwy., Ste. 300	Kansas City, MO	64114	(816) 283-7044
Ken Sessa	kenneth.sessa@dhs.gov	Regional Environmental Officer	FEMA Region VII	9221 Ward Pkwy., Ste. 300	Kansas City, MO	64114	(816) 283-7960
Alan Garrison	alan.garrison@dhs.gov	Regional Exercise Officer	FEMA Region VII	9221 Ward Pkwy., Ste. 300	Kansas City, MO	64114	(816) 283-7021
Kim Van Fleet	kvanfleet@audubon.org	Biologist National Audubon Society	Important Bird Area Coordinator and Staff	225 Varick Street, 7th floor	New York, NY	10014	(717) 213-6880 x11
Leon Campbell		Chairman	Iowa Tribe of Kansas and Nebraska	3345 Thrasher Road	White Cloud, KS	66094	(785) 595-3258
Jennifer Delisle	jdelsile@ku.edu	Informational Manager for Kansas Natural Heritage Database	Kansas Biological Survey	2101 Constant Ave	Lawrence, KS	66047	(785) 864-1500
Alan Pollom	kansas@tnc.org	State Director	Kansas Chapter of The Nature Conservancy	700 SW Jackson, Suite 804	Topeka, KS	66603	(785) 233-4400
Joshua Svaty	josh.svaty@kda.ks.gov	Secretary of Agriculture	Kansas Department of Agriculture	109 S.W. 9th Street, 4th Floor	Topeka, KS	66612-1280	(785) 296-3556
Tom Morey	tom.morey@kda.ks.gov	National Flood Insurance Program Coordinator	Kansas Department of Agriculture, Division of Water Resources	109 S.W. 9th Street, 2nd Floor	Topeka, KS	66612-1283	(785) 296-5440
William Thornton	wthornton@kansascommerce.com	Secretary of Commerce	Kansas Department of Commerce	1000 SW Jackson Street, Suite 100	Topeka, KS	66612-1354	(785) 296-2741
John Mitchell	jmitchell@kdheks.gov	Director	Kansas Department of Health and Environment, Division of Environment	1000 SW Jackson, Suite 400	Topeka, KS	66612-1367	(785) 296-1535
Kerry Wedel	kwedel@kdheks.gov	Section Chief	Kansas Department of Health and Environment, Division of Environment, Bureau of Water, Watershed Management Section	1000 SW Jackson, Suite 420	Topeka, KS	66612-1367	(785) 296-5567
Michael Longshaw	longshaw@ksdot.org	Area Engineer	Kansas Department of Transportation	205 Oil Hill Road	El Dorado, KS	67042	(316) 321-3370

STAKEHOLDER LIST
El Dorado Wetlands and Water Reclamation Facility
Wind Turbine Project
(El Dorado, Kansas)

Deb Miller		Secretary of Transportation	Kansas Department of Transportation	Dwight D. Eisenhower State Office Bldg, 700 SW Harrison Street	Topeka, KS	66603-3754	(785) 296-3461
Eric Johnson	eric.johnson@ksoutdoors.com	Ecologist	Kansas Department of Wildlife and Parks	512 SE 25th Avenue	Pratt, KS	67124	(620) 672-0798
Mike Hayden		Secretary	Kansas Department of Wildlife and Parks	Office of the Secretary, 1020 S Kansas, Room 200	Topeka, KS	66612-1327	(785) 296-2281
Stuart Lowry	slowry@kcc.org	Executive Vice President	Kansas Electric Cooperatives, Inc.	PO Box 4267	Topeka, KS	66604-0267	(785) 478-4554
Representative Carl Holmes	keta@ink.org (carl.holmes@house.ks.gov)	Chair	Kansas Electric Transmission Authority	Room 68-W, Statehouse, 300 SW 10th Street	Topeka, KS	66612	(785) 296-3181
Ken Frahm	kfracm@st-tel.net	KEC Co-Chair	Kansas Energy Commission	410 N. Grant	Colby, KS	67701	(785) 462-1432
Jason Fizell	jfizell@klt.org	Executive Director	Kansas Land Trust	16 East 13th Street	Lawrence, KS	66044-3502	(785) 749-3297
Eric B. Banks	eric.banks@ks.usda.gov	State Conservationist	Kansas Natural Resource Conservation Service	760 South Broadway	Salina, KS	67401	(785) 823-4565
Larry Erickson	lerrick@ksu.edu	President	Kansas Natural Resource Council	P.O. Box 2635	Topeka, KS	66601	
Dan Nagengast	dan@kansasruralcenter.org	Executive Director	Kansas Rural Center	P.O. Box 133	Whiting, KS	66552	(785) 873-3431
David Kirkbride	david.kirkbride@kansas.sierraclub.org	Chair Southwind Group	Kansas Sierra Club, Kansas Chapter	2935 South Seneca Street	Wichita, KS	67217	(316)945-0728
Kimberly Gant	kgant@kshs.org	Review and Compliance Coordinator	Kansas State Historical Society	6425 SW 6th Avenue	Topeka, KS	66615-1099	(785) 272-8681 x225
Tim Weston	tweston@kshs.org	SHPO Archaeologist	Kansas State Historical Society	6425 SW 6th Avenue	Topeka, KS	66615-1099	(785) 272-8681 x214
Jennie Chin	inn@kshs.org	Executive Director, State Historic Preservation Officer	Kansas State Historical Society	6425 SW 6th Avenue	Topeka, KS	66615-1099	(785) 272-8681 x205
Patrick Zollner	pzollner@kshs.org	Division Director	Kansas State Historical Society, Cultural Resources Division	6425 SW 6th Avenue	Topeka, KS	66615-1099	(785) 272-8681 x217
Tracy Streeter	tracy.streeter@kwo.ks.gov	Director	Kansas Water Office	901 S Kansas Avenue	Topeka, KS	66612	(785) 296-3185
Charlie Black	charlieblack@sunflower.com	Executive Director	Kansas Wildscape Foundation	2500 W. 6th Suite G	Lawrence, KS	66049	(785) 843-9453
Guy Munroe		Chair	Kaw Nation	PO Box 50	Kaw City, OK	74641	(580) 269-2552
Arlan Whitebird		Chairman	Kickapoo Tribe of Indians in Kansas	1107 Goldfinch Road	Horton, KS	66439	(785) 486-2131
Eric Glitzenstein		Partner	Meyer Glitzenstein & Crystal	1601 Connecticut Ave., N.W., Suite 700	Washington, D.C.	20009-1056	(202) 588-5206
William Eubanks		Associate	Meyer Glitzenstein & Crystal	1601 Connecticut Ave., N.W., Suite 700	Washington, D.C.	20009-1056	(202) 588-5206
Phil Wallis		Vice President	National Audubon Society	225 Varick Street, 7th floor	New York, NY	10014	
Michelle P. Scott		General Counsel	National Audubon Society	225 Varick Street, 7th floor	New York, NY	10014	
Mr. Greer Goldman	ggoldman@audubon.org CC: mdaulton@audubon.org	Assistant General Counsel	National Audubon Society- Audubon Public Policy Office	1150 Connecticut Avenue, NW	Washington, DC	20036	(202) 861-2242 x3039
John Cecil	jcecil@audubon.org	Director	National Important Bird Area Contact	225 Varick Street, 7th floor	New York, NY	10014	(215) 355-9588 x15
Jennifer Knorr	Jennifer.Knorr@ks.gov	Energy Coordinator	Office of the Governor	State Capitol, Room 222-South, 300 S.W. 10th Ave.	Topeka, KS	66612	(785) 296-2213
Jim Gray		Principal Chief	Osage Nation of Oklahoma	PO Box 53, 627 Grandview	Pawhuska, OK	74056	(918) 287-1128
Dr. Andrea Hunter	andrea.hunter@osage-tribe.org	Tribal Historical Preservation Officer	Osage Nation of Oklahoma	PO Box 53, 627 Grandview	Pawhuska, OK	74056	(918) 287-1128
Brent A. Patty		Airport Manager	Patty Field Airport	1761 SE Bluestem Road	El Dorado, KS	67042	(316) 321-9192
Steve Ortiz	steveo@pbpnation.org	Chairman	Prairie Band of Potawatomi Nation	16281 Q Road	Mayetta, KS	66509	(785) 966-4007
Twen Barton		Chairperson	Sac and Fox Tribe of Missouri in Kansas and Nebraska	Rural Route 1, Box 60	Reserve, KS	66434	(785) 742-7471
Greg Foley	greg.foley@scc.ks.gov	Executive Director	State Conservation Commission	109 SW 9th Street, Suite 500, Mills Bldg.	Topeka, KS	66612	(785) 296-7085
Thomas E. Wright	twright@kcc.ks.gov	Chairman	State Corporation Commission	1500 SW Arrowhead Road	Topeka, KS	66604-4027	(785) 271-3166
Terry Steuber	tsteuber@kcc.ks.gov		State Energy Office, State Corporation Commission	1300 SW Arrowhead Road, Suite 100	Topeka, KS	66604-4074	(785) 271-3352
Steve Scanlon (Attn: SFIM-AEC-CR)	stephen.s.scanlon@us.army.mil	Army Region VII Regional Environmental Coordinator	US Army Environmental Center (Central Regional Environmental Center)	601 East 12th Street, Suite 647	Kansas City, MO	64106-2896	(816) 389-3449 (816) 389-3445
Thomas Schumann	thomas.j.schumann@uscae.army.mil	Kansas State Program Manager	USACE, Kansas State Regulatory Office	2710 NE Shady creek Access Road	El Dorado, KS	67042	(816) 389-3742
Sandy Koontz			USDA, Natural Resources Conservation Service	2503 Enterprise	El Dorado, KS	67042	
Dan Mulhern	dan_mulhern@fws.gov		USFWS, Kansas Ecological Services Field Office	2609 Anderson Avenue	Manhattan, KS	66503-6172	(785) 539-3474 x109
Mike LeValley	Mike_LeValley.fws.gov	Project Leader	USFWS, Kansas Ecological Services Office	2609 Anderson Avenue	Manhattan, KS	66503-6172	(785) 539-3474
Suzanne Coin	SuzanneCoin@westarenergy.com	Business Manager	Westar Energy	PO Box 208	Wichita, KS	67201	(316) 299-7459

STAKEHOLDER LIST
El Dorado Wetlands and Water Reclamation Facility
Wind Turbine Project
(El Dorado, Kansas)

Leslie Standing		President	Wichita and Affiliated Tribes	PO.Box 729	Anadarko, OK	73005	(405) 247-2425
Sandra Tholen	was@wichitaaudubon.org	President	Wichita Audubon Society	PO Box 47607	Wichita, KS	67201	(316) 634-0049

Publication of Notice of Availability



NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE) has prepared a draft Environmental Assessment (EA) to analyze and describe the potential environmental impacts associated with the:

El Dorado Wetlands and Water Reclamation Facility Wind Energy Project
105 Wetlands Drive, El Dorado, KS – Butler County
DOE/EA: 1833

DOE's Golden Field Office has prepared a Draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). The DOE has provided a grant to the State of Kansas Corporation Commission and would authorize the recipient to expend Federal funding to design, permit, and construct the City of El Dorado's Wind Energy Project, a proposed 1.0 megawatt wind turbine to be located at the City of El Dorado's Wetlands and Water Reclamation Facility in El Dorado, Butler County, Kansas. Comments on any potential issues and/or associated environmental impacts of implementing the proposed project will be accepted until **December 30, 2010**. DOE encourages your participation in this process.

Please mail comments to the **DOE Golden Field Office**, c/o Amy Van Dercook, Mail Stop 1501, 1617 Cole Boulevard, Golden, CO 80401, or by email to amy.vandercook@go.doe.gov.

The Draft Environmental Assessment, with appendices is available for your review on the **DOE Office of NEPA Compliance & Golden Field Office Websites**:

http://nepa.energy.gov/draft_environmental_assessments.htm

http://www.eere.energy.gov/golden/reading_room.aspx

Affidavit of Publication

State of Kansas, Butler County, ss.

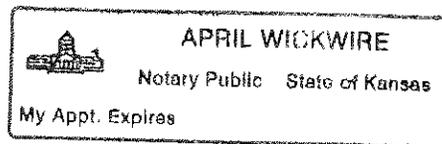
JULIE A. CLEMENTS, of lawful age, being duly sworn, says that she is the EDITOR of LIBERTY GROUP KANSAS HOLDINGS, INC. DBA THE EL DORADO TIMES, a daily newspaper, printed in the State of Kansas, and published in Butler County, Kansas, with a general paid circulation on a monthly basis in Butler County, Kansas, and that said newspaper is not a trade, religious or fraternal publication.

Said newspaper is a daily published at least weekly 50 times a year; has been so published continuously and uninterruptedly in said county and state for a period of five years prior to the first publication of said notice; and has been admitted at the post office of El Dorado, Kansas in said County as second class matter.

That the attached notice is a true copy thereof and was published in the regular and entire issue of said newspaper for 1 publication thereof being made as aforesaid on the 14th day of December 2010.

Julie A. Clements
Julie A. Clements, Editor

Subscribed and sworn to before me, this 20th day of December, 2010:



April Wickwire
April Wickwire, Notary Public

My commission expires: October 13, 2014

Publication Cost	56.32
Copies	
Proof	
Total	<u>56.32</u>

El Dorado Times
Shoppers Guide
114 N. Vine
El Dorado, KS 67042

(First Published in
The El Dorado Times
Tuesday, Dec. 15, 2010)

NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE) has prepared a draft Environmental Assessment (EA) to analyze and describe the potential environmental impacts associated with the:

**El Dorado Wetlands and
Water Reclamation Facility
Wind Energy Project
105 Wetlands Drive,
El Dorado, KS - Butler
County**

DOE/EA: 1833D

DOE's Golden Field Office has prepared a Draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). The DOE has provided a grant to the State of Kansas Corporation Commission and would authorize the recipient to expend Federal funding to design, permit, and construct the City of El Dorado's Wind Energy Project, a proposed 1.0 megawatt wind turbine to be located at the City of El Dorado's Wetlands and Water Reclamation Facility in El Dorado, Butler County, Kansas. Comments on any potential issues and/or associated environmental impacts of implementing the proposed project will be accepted until **December 30, 2010**. DOE encourages your participation in this process.

Please mail comments to the **DOE Golden Field Office**, c/o Amy Van Dercook, Mail Stop 1501, 1617 Cole Boulevard, Golden, CO 80401, or by

email to
amy.vandercook@go.doe.gov
The Draft Environmental Assessment, with appendices is available for your review on the DOE Office of NEPA Compliance & Golden Field Office Websites:
http://nepa.energy.gov/draft_environmental_assessments.htm
http://www.eere.energy.gov/golden/reading_room.aspx

AFFIDAVIT

STATE OF KANSAS

- SS.

County of Sedgwick

Mark Fletchall, of lawful age, being first duly sworn, deposeth and saith: That he is Record Clerk of The Wichita Eagle, a daily newspaper published in the City of Wichita, County of Sedgwick, State of Kansas, and having a general paid circulation on a daily basis in said County, which said newspaper has been continuously and uninterruptedly published in said County for more than one year prior to the first publication of the notice hereinafter mentioned, and which said newspaper has been entered as second class mail matter at the United States Post Office in Wichita, Kansas, and which said newspaper is not a trade, religious or fraternal publication and that a notice of a true copy is hereto attached was published in the regular and entire Morning issue of said The Wichita Eagle for 1 issues, that the first publication of said notice was

made as aforesaid on the 14th of

December A.D. 2010, with

subsequent publications being made on the following dates:

And affiant further says that he has personal knowledge of the statements above set forth and that they are true.

Mark Fletchall

Subscribed and sworn to before me this

14th day of December, 2010

PENNY L. CASE
Notary Public - State of Kansas
My Appt. Expires 5/28/2014

Penny L. Case
Notary Public Sedgwick County, Kansas

Printer's Fee : \$254.80

LEGAL PUBLICATION

Published in the Wichita Eagle
Tuesday, November 14, 2010 (#3087728)



NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE) has prepared a draft Environmental Assessment (EA) to analyze and describe the potential environmental impacts associated with the:

El Dorado Welllands and Water Reclamation Facility Wind Energy Project
105 Welllands Drive, El Dorado, KS - Butler County
DOE/EA: 1833D

DOE's Golden Field Office has prepared a Draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). The DOE has provided a grant to the State of Kansas Corporation Commission and would authorize the recipient to expend Federal funding to design, permit, and construct the City of El Dorado's Wind Energy Project, a proposed 1.0 megawatt wind turbine to be located at the City of El Dorado's Welllands and Water Reclamation Facility in El Dorado, Butler County, Kansas. Comments on any potential issues and/or associated environmental impacts of implementing the proposed project will be accepted until December 30, 2010. DOE encourages your participation in this process.

Please mail comments to the DOE Golden Field Office, c/o Amy Van Dercook, Mail Stop 1501, 1617 Cole Boulevard, Golden, CO 80401, or by email to mailto:amy.vandercook@go.doe.gov

The Draft Environmental Assessment, with appendices is available for your review on the DOE Office of NEPA Compliance & Golden Field Office Websites Dec. 15 thru Dec. 30th, 2010:

http://nepa.energy.gov/draft_environmental_assessments.htm
http://www.eare.energy.gov/golden/reading_room.aspx

Meeting Minutes, El Dorado City Commission - October 6, 2010

EL DORADO SPECIAL CITY COMMISSION MEETING

October 6, 2010

The El Dorado City Commission met in special session on October 6, 2010, at 3:30 p.m. in the Commission Room with the following present: Vice Mayor David Chapin, Commissioner Linda Clark, Commissioner Nick Badwey, Commissioner Shane Krause, City Manager Herb Llewellyn, Assistant City Engineer Scott Rickard, and City Clerk Tabitha Sharp. Absent: Mayor Tom McKibban and City Attorney Jim Murfin.

VISITORS

Julie Clements	El Dorado Times	El Dorado, Kansas
Kurt Bookout	220 E. 1 st	El Dorado, Kansas
Jared Cobb	220 E. 1 st	El Dorado, Kansas
Matt Rehder	220 E. 1 st	El Dorado, Kansas

CALL TO ORDER

Vice Mayor David Chapin called the October 6, 2010 Special City Commission meeting to order.

CONSENT AGENDA

Approval of the September 20, 2010 City Commission minutes.

Approval of the Appropriation Ordinance 09-10 in the amount of \$1,327,128.56.

Approval of the Engineer’s Second & Final Pay Estimate dated September 22, 2010, on Project No. 243D, Sanitary Sewer to serve Douglas Road to the Contractor, Nowak Construction, in the amount of \$7,273.70.

Approval of the Engineer’s First & Final Pay Estimate dated September 23, 2010, on Project No. 352, 2010 Residential Sidewalk Program to the Contractor, Barkley Construction, in the amount of \$28,820.37.

Approval of the Engineer’s Second Pay Estimate dated September 27, 2010, on Project No. 243, 15” Sanitary Sewer N. Main Street to the Contractor, Nowak Construction, in the amount of \$75,190.32.

Commissioner Linda Clark moved that eh Consent Agenda, as presented, be approved.

Commissioner Nick Badwey seconded the motion.

Motion passed 4-0.

UPDATE ON ENVIRONMENTAL ASSESSMENT FOR WIND TURBINE

Director of Public Utilities, Kurt Bookout, presented an update on the environmental assessment currently underway at the water plant. This update is a requirement of the environmental assessment, so that all interested parties may be informed of the progress.

Mr. Bookout stated that the environmental assessment was going well and once it has been completed, the City of El Dorado will receive a \$250,000 grant from the Department of Energy. The Department of Energy is the agency paying for the assessment.

Vice Mayor David Chapin asked about the cost for the entire wind turbine project.

EL DORADO SPECIAL CITY COMMISSION MEETING

October 6, 2010

Mr. Bookout stated that the project would be about \$2,000,000.00. He also stated that the turbine was designed to supply 98 percent of the electricity needed for the water plant on an average day. On days where the wind speed is higher, the excess wind energy may be available for sale by the City of El Dorado.

Mr. Bookout stated that the wind turbine would last approximately 20 to 25 years.

City Manager Herb Llewellyn stated that if the City of El Dorado deemed the wind turbine a good investment, the City would see a return on the investment of approximately \$50,000.00 a year within the first year of operation.

PROJECT # 357 - SE QUADRANT RESIDENTIAL SIDEWALKS

Bids were received for the Southeast Quadrant Residential Sidewalk Program and the low bids were below the Engineer’s Estimates.

BIDS RECEIVED

Mayor asked that the bids be spread on the record.

	<u>Total Bids</u>
Engineer’s Estimate-	\$127,606.25
Barkley Construction-	\$117,998.45
Bryant & Bryant-	\$132,281.00
Cornejo & Sons-	\$133,548.00
Surface Protection Services-	\$136,639.00

Assistant City Engineer Scott Rickard stated that Barkley Construction provided the lowest bid of \$117,998.45 for the sidewalk replacement program. He also stated that he has met with a few property owners who will be replacing their own sidewalks, they have been removed from the project. The City will continue with the offer to remove the old sidewalk debris for free.

Commissioner Nick Badwey asked about the procedure for addressing property owners who do not replace their sidewalks correctly.

Mr. Rickard stated that each property owner will have to meet the City’s specifications. Once they have set up the forms for their sidewalk, they have been asked to call the City so that we may look at it before the sidewalk is poured.

Commissioner Shane Krause asked if property owners were responsible for ramps at the street corners.

Mr. Rickard stated that the ramps were the responsibility of the City.

Vice Mayor David Chapin asked if residents who do their own sidewalks would be required to follow specifications on concrete finishing.

Mr. Rickard stated that residents would only be following specifications on height and levelness.

Commissioner Krause asked if Barkley Construction would be starting immediately.

Mr. Rickard stated that they would begin immediately.

Commissioner Nick Badwey moved that as Barkley Construction has submitted the lowest and best bid for Project No. 357 SE quadrant residential sidewalks, and since their

EL DORADO SPECIAL CITY COMMISSION MEETING

October 6, 2010

bid of \$117,998.45 was under the Engineer’s Estimate, the City Manager be directed to award the contract to said contractor providing that the company furnish the proper insurance.

Commissioner Shane Krause seconded the motion.

Motion passed 4-0.

PROJECT # 347 – NORTH MAIN SIDEWALK (12TH TO POST)

Bids were received on the North Main Sidewalk project, and the low bids were below the Engineer’s Estimates.

RECEIVING THE BIDS

Mayor asked that the bids be spread on the record.

	<u>Total Bids</u>
Engineer’s Estimate-	\$141,419.53
Bryant & Bryant-	\$ 98,974.78
Barkley Construction-	\$107,000.00
Cornejo & Sons-	\$111,320.30
APAC-Kansas-	\$156,394.53
Surface Protection Services-	\$164,788.23

Assistant City Engineer Scott Rickard stated that this project is funded through excess sales tax monies. There is \$150,000 set aside for the project, and the lowest bid, from Bryant and Bryant, came in at \$98,974.78.

Commissioner Linda Clark asked how the City will build the sidewalk around the overpass.

Mr. Rickard stated that the sidewalk would go under the overpass.

Commissioner Clark asked when the project would begin.

Mr. Rickard stated that weather permitting; it would begin in mid November and be completed before spring.

Commissioner Shane Krause moved that as Bryant & Bryant has submitted the lowest and best bid for Project No. 347 N. Main sidewalk (12th to Post), and since their bid of \$98,974.78 was under the Engineer’s Estimate, the City Manager be directed to award the contract to said contractor providing that the company furnish the proper insurance.

Commissioner Linda Clark seconded the motion.

Motion passed 4-0.

TEMPORARY NOTES – PROJECT NO. 310

Funding is needed for Project No. 310, paving Boyer and 6th (Central to Metcalf). Staff requests temporary notes in the amount of \$2,000,000.00 to finance the project.

Commissioner Shane Krause asked about the temporary financing.

Mr. Rickard stated that the temporary financing would be used until the 2012 bond, at which time it would become permanent and remain until the special assessments to property had been paid.

EL DORADO SPECIAL CITY COMMISSION MEETING

October 6, 2010

Commissioner Linda Clark moved that Resolution No. 2664, a resolution relating to the issuance of Temporary Note No. 1882 for Project No. 310, be adopted.

Commissioner Nick Badwey seconded the motion.

Motion passed 4-0.

ADJOURNMENT

Commissioner Linda Clark moved the meeting adjourned at 4:57 p.m.

Commissioner Shane Krause seconded the motion.

Motion Carried 4-0.

City Clerk Tabitha Sharp

Mayor Tom McKibban

Public Comments on Scoping Notice

FW: Proposed Wind Turbine (FAA consultation)

Van Dercook, Amy [amy.vandercook@go.doe.gov]

Sent: Thursday, September 16, 2010 5:02 PM

To: Ferro, James; david_kocour@urscorp.com

Cc: Kurt Bookout [wildcat@eldoks.com]; Terry Steuber [t.steuber@kcc.ks.gov]; jgunby@gbateam.com

Please see below

-----Original Message-----

From: brenda.mumper@faa.gov [<mailto:brenda.mumper@faa.gov>]

Sent: Thursday, September 16, 2010 1:56 PM

To: Van Dercook, Amy

Subject: Proposed Wind Turbine

Good afternoon,

Someone in the FAA office in Kansas City advised me that they had received a postcard about a proposed wind turbine. I just wanted to ensure you were aware of the regulations concerning notification to the FAA of any proposed construction or alteration. The regulations are contained in Title 14 CFR, Part 77 and there's a link to the notice criteria on our website, <http://oeaaa.faa.gov> <<http://oeaaa.faa.gov/>> . You may also use the Notice Criteria Tool on the website to determine whether notice to the FAA is required.

Please contact me if you have any questions.

Best regards,

Brenda Mumper

Wind Turbine Specialist

AR, KS, LA, MO, NE, OK, TX and Republic of Panama Federal Aviation Administration, Air Traffic Organization Obstruction Evaluation Service, Chicago Office

(847) 294-7520

brenda.mumper@faa.gov

OES Website: <http://oeaaa.faa.gov> <<http://oeaaa.faa.gov/>>

-----Original Message-----

From: Shepard.Larry@epamail.epa.gov
[<mailto:Shepard.Larry@epamail.epa.gov>]

Sent: Monday, September 27, 2010 3:33 PM

To: Van Dercook, Amy

Cc: Cothorn.Joe@epamail.epa.gov; Curtis.Glenn@epamail.epa.gov

Subject: Comments on the Notice of Scoping for the El Dorado, Kansas, Wind Turbine Project, Environmental Assessment

Thank you for the opportunity to review your September 13, 2010, letter and enclosures announcing the scoping process for this project. DOE is considering funding for the Kansas Corporation Commission to support construction of a single, one megawatt wind turbine by the City of El Dorado at the El Dorado Wetlands and Water Reclamation Facility. The energy generated by this project would provide power to the City's wastewater treatment plant on-site. We were notified of this public scoping through a postcard sent to us dated September 13. I will be serving as the primary reviewer of this Environmental Assessment (EA) for US EPA. If any additional information becomes available prior to the issuance of the draft EA, please direct that information to my attention. I would also appreciate notification by your office when the draft EA is posted on your website.

I have no specific comments regarding this project at this stage, however, I suggest that you develop the range of options (or alternatives) to address the project's purpose and need rather than the agency's purpose and need as stated on page 2, second paragraph, of the September 13 letter. In addition, if this project could be designed to provide more power than is required by the wastewater treatment facility on a constant basis, the range of alternatives might include at least one which could provide power to the city for other or additional city uses (e.g., the neighboring correctional facility).

I look forward to reviewing the draft EA.

Larry Shepard
NEPA Team/Interstate Waters
US EPA Region 7
901 N. 5th Street
Kansas City, Kansas 66101
913-551-7441

Notice of Scoping & Proposed Floodplain Action



NOTICE OF PUBLIC SCOPING AND PROPOSED FLOODPLAIN ACTION

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the El Dorado Wetland and Water Reclamation Facility Wind Energy Project.

DOE's Proposed Financial Assistance to Kansas Corp. Commission

El Dorado Wastewater Treatment Plant Wind Energy Project

El Dorado, IL - Butler County

DOE/EA: TBD

The City of El Dorado is proposing to install a single 1 megawatt (MW) wind turbine on El Dorado Wetlands & Water Reclamation Facility property located at 105 Wetlands Drive, El Dorado, KS. DOE's Golden Field Office is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA).

The complete scoping and floodplain action letter, with attachments, is available for review on the DOE Golden Field Office website: http://www.eere.energy.gov/golden/reading_room.aspx

No formal public scoping meeting is planned for this project. Public comments on any potential issues and/or associated environmental impacts of implementing the proposed action will be accepted until **September 27, 2010**. You can submit comments by either mail to U.S.

Department of Energy, c/o Amy VanDercook, Golden Field Office, Mail Stop 1501, 1617 Cole Blvd., Golden, CO 80401, or by email to Amy.Vandercook@go.doe.gov.



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

September 13, 2010

TO: Distribution List

SUBJECT: **NOTICE OF SCOPING AND PROPOSED FLOODPLAIN ACTION**
El Dorado Wind Turbine Project at the El Dorado Wetlands and Water
Reclamation Facility, El Dorado, Kansas (Butler County)

The U.S. Department of Energy (DOE) is proposing to provide federal funding to the Kansas Corporation Commission (KCC) for the City of El Dorado Wind Turbine Project located at the Wetlands and Wastewater Reclamation Facility. The City of El Dorado is proposing to construct and install a single, one megawatt (MW) wind turbine at the plant, located at 105 Wetlands Drive in El Dorado, Kansas, approximately 0.7 miles south of El Dorado, adjacent to Highway 77. The proposed wind energy project would provide needed electricity to El Dorado's wastewater treatment plant. An increase of energy usage at the plant will occur in association with the city's projected population and subsequent service demand and electrical consumption at the plant. The proposed wind turbine is expected to produce 2,430 megawatt-hour (MWh) of energy each year. Two locations are being considered for construction of the turbine: the west location is just southwest of the existing wastewater treatment plant, and the east location is abutting Highway 77 on the north side of Wetlands Drive at the entrance to the property. It is estimated that the proposed turbine would consist of a 70 meter tower and a 59 meter rotor for a total turbine height of approximately 99.5 meters (330 feet) above ground level.

Pursuant to the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021) and floodplain analyses (10 CFR 1022), DOE is preparing a draft Environmental Assessment (EA) to:

- Identify potential adverse environmental impacts as well as ways to avoid, minimize or mitigate such impacts should this proposed action be implemented;
- Evaluate viable alternatives to the proposed action, including a no action alternative;
- Describe the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity;
- Characterize any irreversible and irretrievable commitments of resources that would be involved should this proposed action be implemented; and,
- Identify and discuss effects of the proposed project on floodplains.



Potential Environmental Effects or Issues Identified for the Environmental Assessment

The EA will describe and analyze any potential impacts on the environment that would be caused by the project and will identify measures to avoid, minimize, or provide mitigation for those impacts. The EA will describe the potentially affected environment and the impacts that may result to:

- Air Quality and Climate;
- Geology/Soils;
- Biological Resources;
- Water Resources, including Floodplains;
- Waste Management and Hazardous Materials;
- Cultural and Historical Resources;
- Land Use;
- Noise;
- Infrastructure;
- Transportation and Traffic;
- Aesthetics;
- Human Health and Safety; and,
- Socioeconomics and Environmental Justice.

Development of a Reasonable Range of Alternatives

DOE is required to consider a reasonable range of alternatives to the proposed action during an environmental review. The definition of alternatives is governed by the “rule of reason.” An EA must consider a reasonable range of options that could accomplish the agency’s purpose and need and reduce environmental effects. Reasonable alternatives are those that may be feasibly carried out based on environmental, technical, and economic factors.

The No Action Alternative will also be addressed, in accordance with NEPA. The need for project redesign, or a project alternative, will be determined in the course of the environmental review.

Public Scoping

DOE is making this letter available to all interested federal, state and local agencies for the purpose of providing input on issues to be addressed in the EA. Agencies are invited to identify the issues, within their statutory responsibilities, that should be considered in the EA. The general public is also invited to submit comments on the scope of the EA.

No formal public scoping meeting is planned for this project. **Figure 1** showing the proposed project area and **Figure 2** showing the proposed turbine locations are attached to this letter.

This letter, as well as the draft EA, when available, will be posted on the DOE Golden Field Office online reading room:

http://www.eere.energy.gov/golden/Reading_Room.aspx.

The DOE Golden Field Office welcomes your input throughout the NEPA process. Please provide any comments on this proposed action on or before September 27, 2010 to:

Amy Van Dercook
U.S. Department of Energy
Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, CO 80401
amy.vandercook@go.doe.gov

We look forward to hearing from you.

Sincerely,



Amy Van Dercook, P.G.
NEPA Document Manager

Attachments:

Figure 1-Proposed Project Area

Figure 2-Proposed Turbine Locations

FIGURE 1
El Dorado Wetlands & Water Reclamation Facility Wind Turbine Project
Facility Location

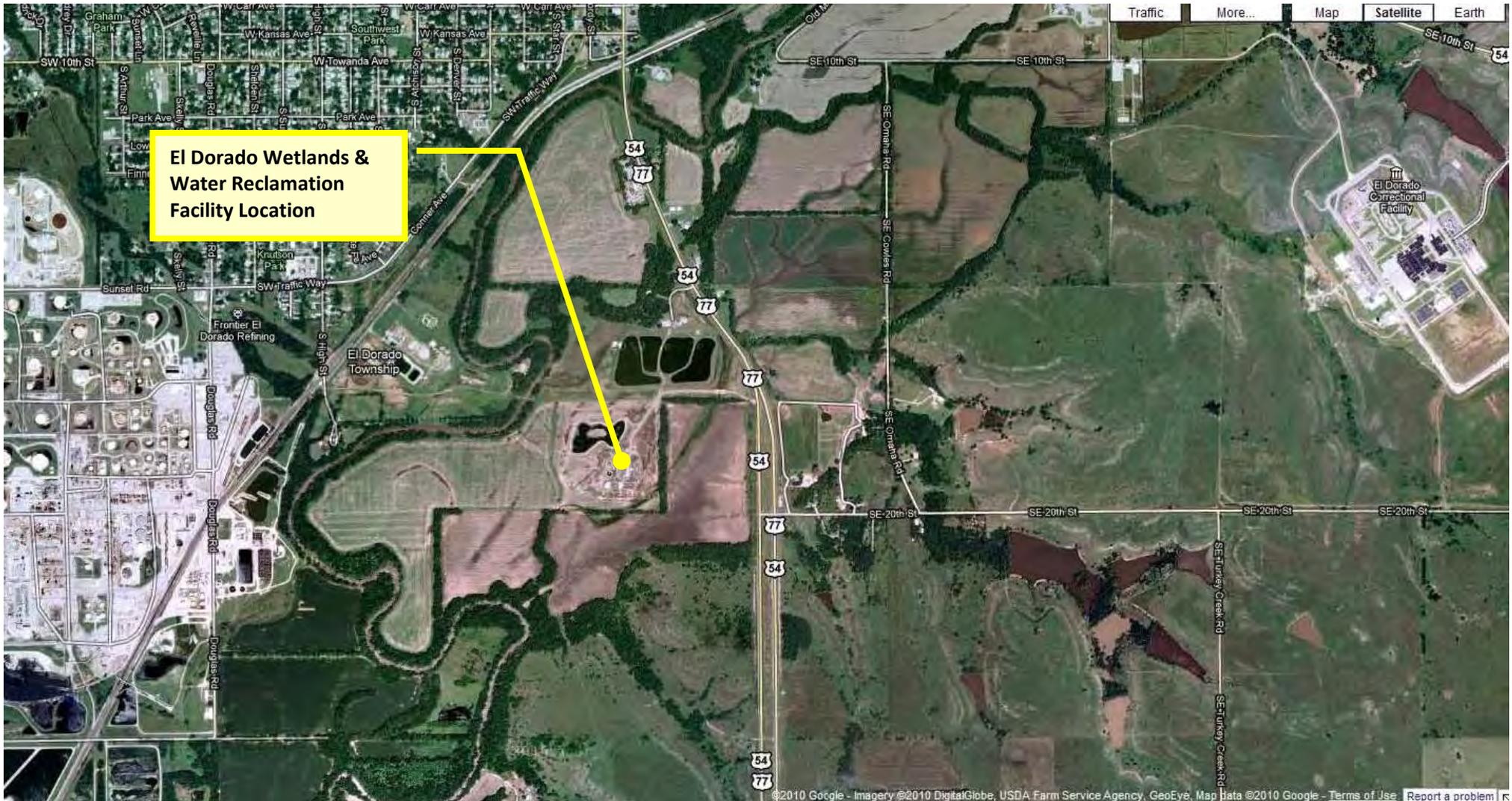


FIGURE 2
El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project
Proposed Turbine Locations for Consideration



Attachment D-2: Nordic N1000 Data Sheet

N1000 1MW
Wind Turbine



Utility Scale
Community Focus



nordicwindpower.com

Simple,
Light-Weight Design

Low Drive
Train Loading

Demonstrated
Reliability

Proven
Track Record

Low Upfront Costs

High Reliability

Low Maintenance

Predictability

The N1000 1MW two-bladed wind turbine is your choice for lowest total cost of energy

Proven and Innovative

Revolutionary flexible design enabled by the two-bladed system dissipates loads resulting from turbulence and wind shear without adding material and weight. Proven N1000 technology based on more than 13 years (140,000 hours) of operation with exceptional reliability and trouble-free drive train performance.

Easy Installation and Low Maintenance:

- More straightforward site construction requirements
- Less material needed for foundation
- Use of smaller, more available crane
- Only 4 truck shipments and 3 crane picks
- Ground assembly of nacelle/blades is safer and more efficient
- Fewer components with reduced complexity
- Affordable, customer-oriented service options

Ideally Suited for Smaller Wind Projects, Including:

- Community Wind
- On-Site Generation
- Small Wind Farms



Installing nacelle and blades in one pick.

Advanced Weather Station
With superior instrumentation

Torque Tube
Maintains gearbox and generator alignment

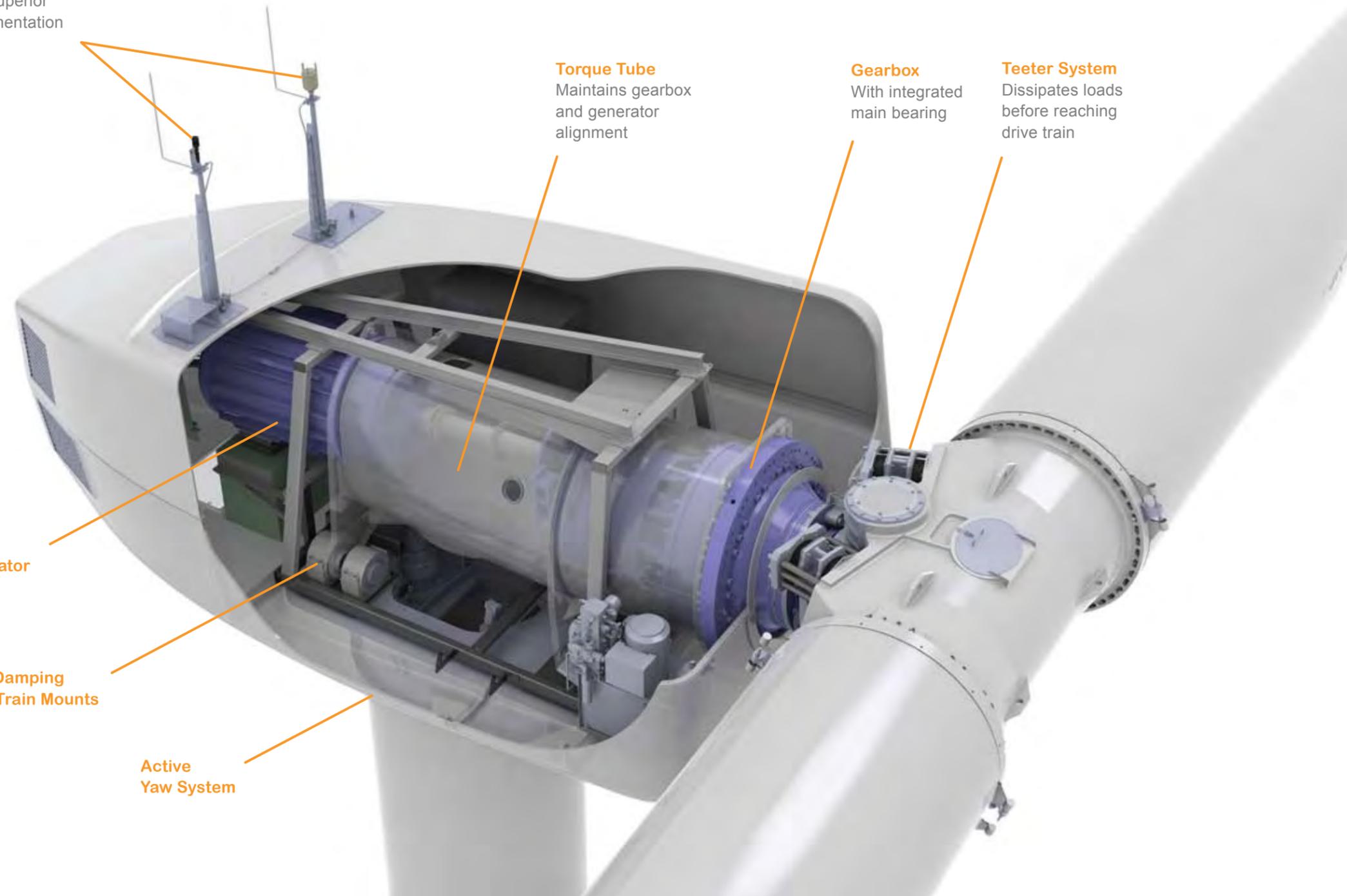
Gearbox
With integrated main bearing

Teeter System
Dissipates loads before reaching drive train

Generator

Load Damping Drive Train Mounts

Active Yaw System



General

Rated Power	1000 kW
Design Class	IEC Class IIIb
Rotor Diameter	59 m
Control Principle	Stall

Gearbox

Type	2 Planetary & 1 Stage Helical
Gear Ratio	1:81

Generator

Type	4-Pole Induction, Air Cooled
Voltage / Frequency	690V 50 / 60Hz

Tower

Hub Height	70 m
Sections	2

Control System

Distributed Control System	Bachmann M-1 PLC, DEIF AGC-3
----------------------------	------------------------------

Noise Level

Less than 104 dB(A) at 8 m/sec

Weights

Nacelle/Hub	43 t
Blades (2)	4.2 t ea.
Tower	63 t

t = *metric tons*

For more detailed information, see the N1000 Specifications Sheet.



US Company, with corporate offices in Berkeley, CA,
manufacturing in Pocatello, ID, and engineering design in Bristol, UK.

info@nordicwindpower.com
www.nordicwindpower.com

10. LIGHTNING

Referenced Drawings

Blade Lightning System - 100586-02 / 101539-01

Hub and nacelle lightning routing - 102209-01

Foundation earth system - 101644-01

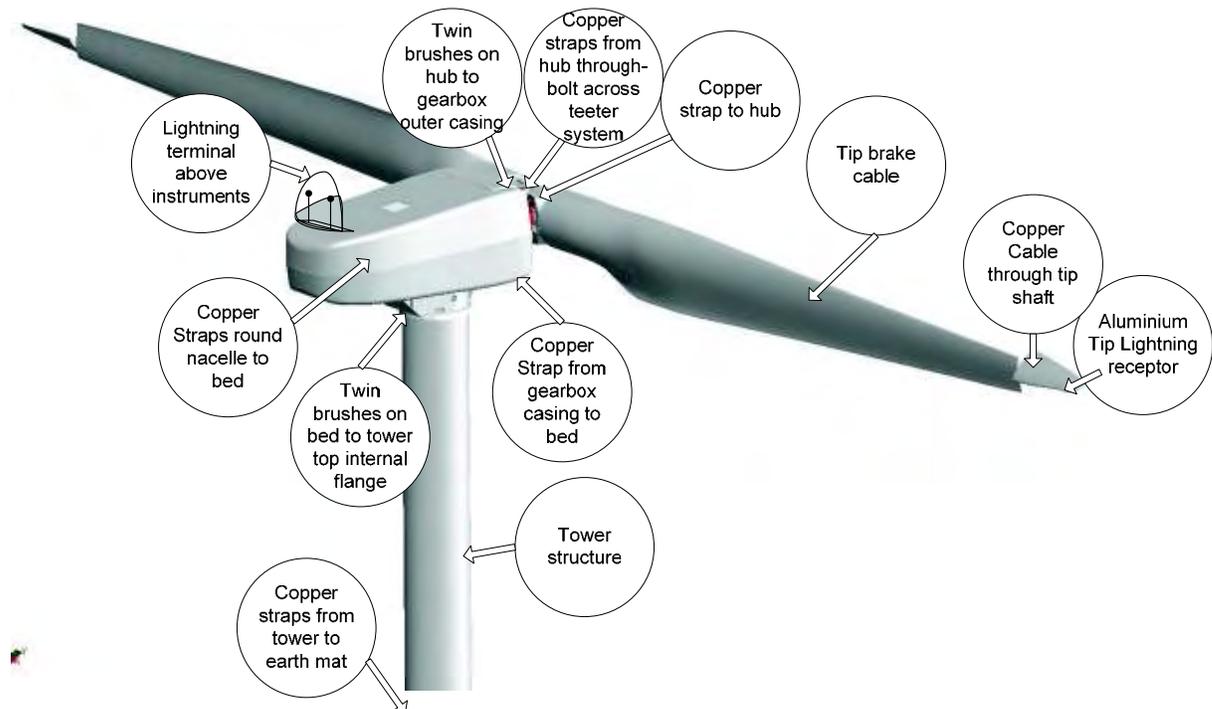


Figure 5 Lightning System

The Nordic N1000 is fitted with a Level I lightning protection system (LPS) as defined by IEC 61024-1 (Protection of structures from Lightning) and as applied to wind turbine generator systems in IEC 61400-24. A Level I LPS must be able to transfer a total charge of 300 C at a peak current of 200 kA with an average rate of current rise of 200 kA/ μ s without damage. The system must also absorb a specific energy of 10 MJ/ Ω without damage. The lightning protection on the Nordic N1000 comprises a continuous conductive path from the blade tips and nacelle instrument array to the foundation earth mat. AWG 000 (3/0) insulated stranded copper cable terminated with copper compression lugs is used throughout to interconnect structural conductors. Connections are typically made using hex screws into tapped holes.

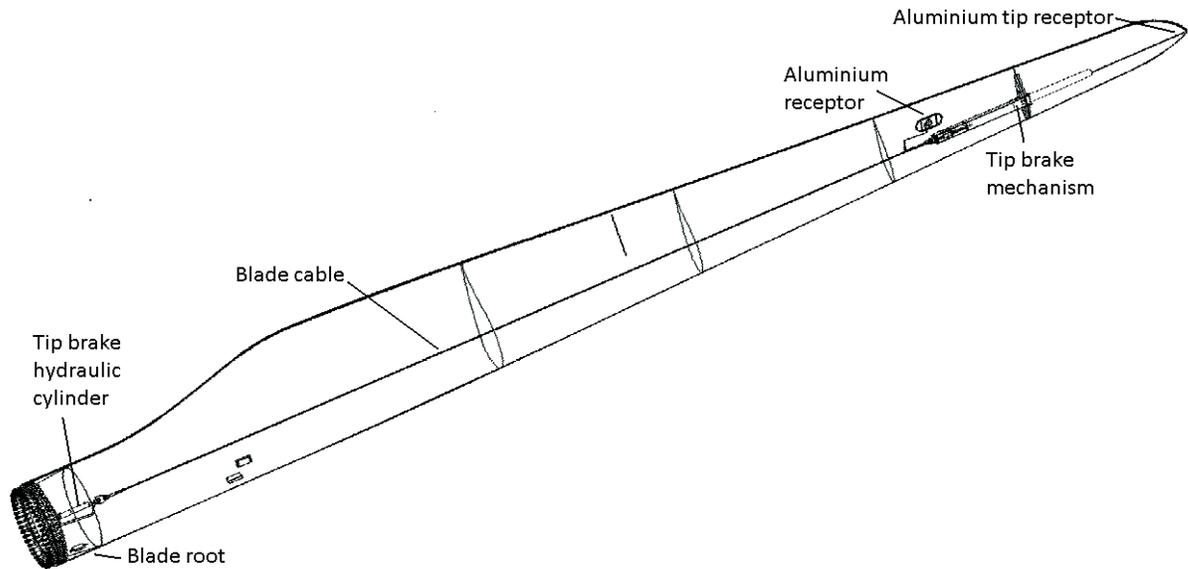


Figure 6 Lightning protection system within the blade.

Each blade is fitted with an aluminium tip receptor. The tip receptor is connected to a copper cable which passes through the tip brake shaft and connects to the stainless steel tip brake cable. The aluminium access hatch used for maintenance of the tip brake mechanism acts as a second lightning receptor. The hatch is also connected to the tip brake cable via a copper cable. The tip brake cable spans the length of the blade and is attached to the tip brake hydraulic cylinder at the blade root.

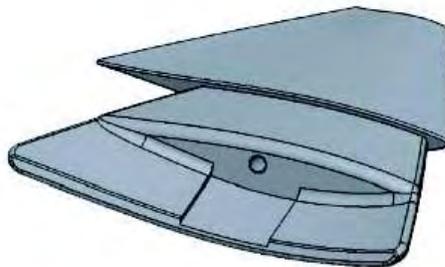


Figure 7 Aluminium blade-tip lightning receptor.

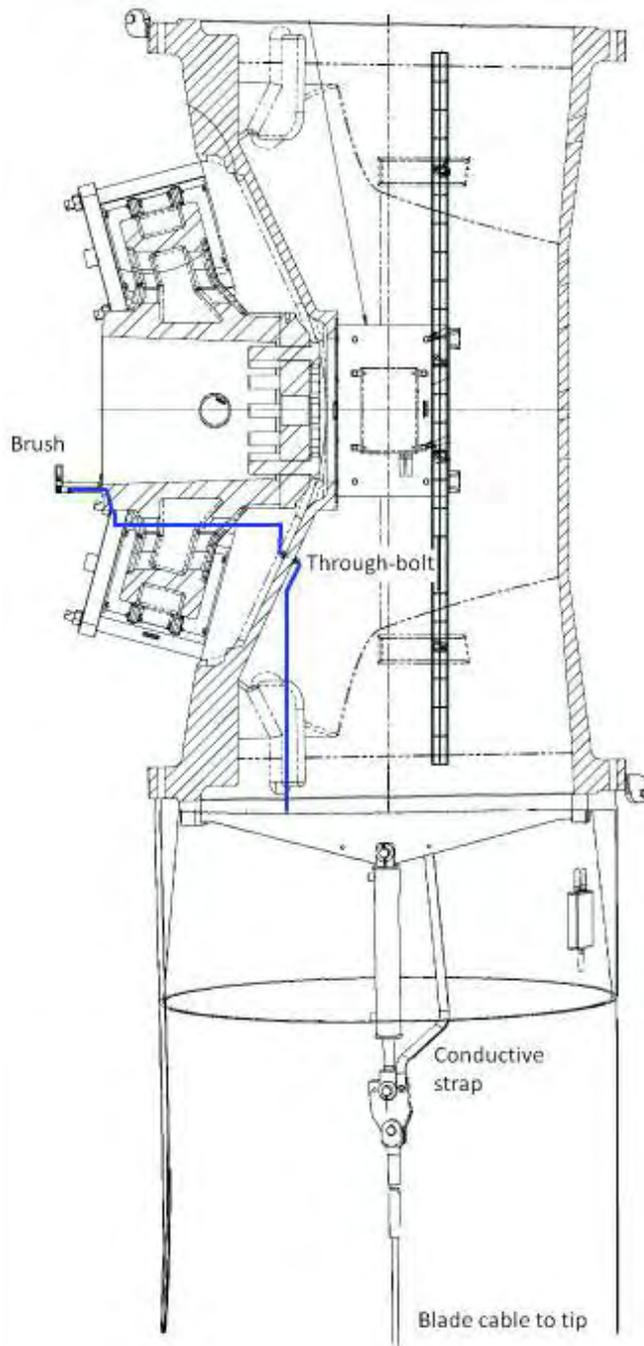


Figure 8 Cross-section through hub and blade root showing lightning current path. The routing of copper lightning conductor through hub is shown in blue. The second blade has an identical configuration that is not shown.

A copper cable connects the base of the hydraulic cylinder to a brass through-bolt out to the hub exterior (Figure 8). A copper cable mounted to the hub exterior crosses the teeter bearing and attaches to one of a pair of hub brushes. The second blade has an identical arrangement as described above, which connects to the second brush. The brushes run on a slip ring fitted to the outer gearbox casing. The slip ring is joined to a copper cable which runs down the front of the nacelle structure to the bed frame.

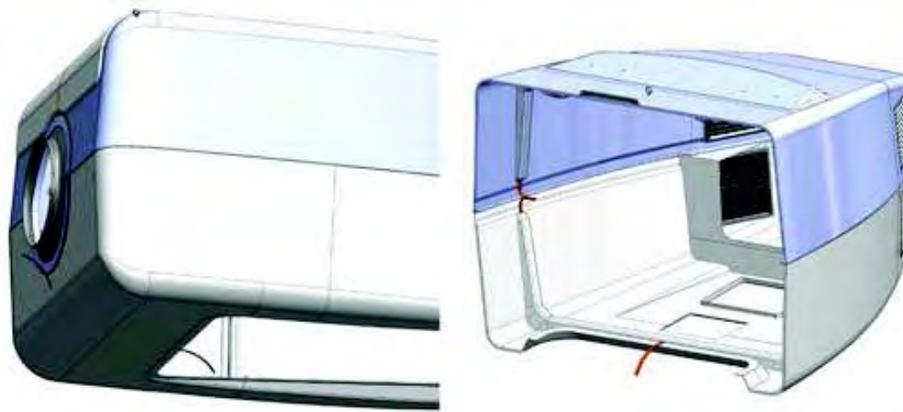


Figure 9 Nacelle copper lightning conductors.

On the nacelle, the instrument array is surrounded by a lightning terminal in the form of a loop. The lightning loop is connected to the bed frame by two copper cables embedded in the nacelle structure. Each cable has a joint at the horizontal split line of the nacelle. As well as providing a conductive path from the top lightning receptor, the peripheral copper strips help to reduce the risk of side flashes of lightning from entering the nacelle. The nacelle electrical cabinet is connected to the bed frame with a copper cable.

The lightning current is passed through the structure of the nacelle bed frame to a second pair of bronze brushes. The brushes run on the tower top flange inner surface, providing a conductive path for lightning into the tower structure around the yaw bearing.

The tower structure acts as the conductive path to the tower foundation. The tower base is connected at 3 points to the earth mat built into the foundation of the turbine. The earth resistance of the mat is specified as 5 Ω .

Surge Protection Devices

The nacelle electrical cabinet contains several surge protective devices (SPDs) to protect the control system and power supplies from voltage transients as a result of a lightning strike to the nacelle top instruments or blade load monitoring system. The SPDs are of standard DIN rail mount design, or plug in modules with a DIN mount adaptor to allow ease of replacement.

The ultrasonic wind sensor, Vaisala weather station and Insensys blade monitoring system communication lines are each protected by a DEHN Blitzductor (BXT ML4 BEH F5) lightning current and surge arrester. The power supply to the Insensys blade monitoring system in the hub is protected by a Raycab Strikezorb (40-V1) SPD. The power supply for the ultrasonic wind sensor and Vaisala weather station is protected by a DEHN Blitzductor (BVT ALD 36). The Vaisala weather station requires a secondary power supply for an in-built heater to prevent ice build-up. This is protected by a separate DEHN Blitzductor (BVT ALD 36).

If aviation warning lights are fitted to the nacelle the signal and power lines are also protected with SPDs. The signal lines are protected with a DEHN Blitzductor (BXT ML2 BE S 24) and the power lines are protected with 2 DEHN Guard (DGS 75 FM). The 690 V nacelle power supply from down tower is protected with 3 Raycab Strikezorb (40-D) SPDs.

All SPDs used in the turbine comply with IEC standard 61643-1 (Performance Requirements of Surge Protection Devices for Low-Voltage Power Supply Systems). There are 2 SPD classes specified in this standard:

- Class I – protection against direct lightning currents (Lightning current arrester)
- Class II – protection against indirect lightning effects (Surge current arrester)

Specification

SPD	SPD Class	Total lightning impulse current, I_{imp} (10/350 μ S waveform)	Total surge current, I_{max} (8/20 μ S waveform)
DEHN Blitzductor BXT ML4 BEH F5	Class I	10 kA	20 kA
DEHN Blitzductor BXT ML2 BE S 24	Class I	9 kA	20 kA
DEHN Blitzductor BVT ALD 36	Class I	5 kA	20 kA
DEHN Guard DGS 75 FM	Class II	-	40 kA
Raycab Strikezorb 40-D	Class I	7.5 kA	140 kA
Raycab Strikezorb 40-V1	Class I	7.5 kA	140 kA

Attachment D-3: El Dorado Wind Turbine Feasibility Study

creating remarkable solutions for a higher quality of life



WIND TURBINE FEASIBILITY STUDY

EL DORADO WETLANDS AND WATER RECLAMATION FACILITY

Prepared For:
City of El Dorado
220 East First
El Dorado, KS 67043

April 13, 2010

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Appendix

Nordic N1000 Brochure and Data Sheet
Nordic N1000 Indicative Proposal
RETScreen Energy Model
2009 annual Westar Energy statement

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1. Overview

1.1 Introduction

The future of energy is uncertain. With volatile fuel and electrical costs, people are no longer taking for granted where their power comes from and how rising energy costs will impact their towns, schools, and businesses. In case study after case study, the average cost of power over the lifetime of a wind turbine is projected to be lower than traditional sources of power. In short, the energy you make is energy you don't have to pay for from other sources.

The following pages provide an overview of how the City of El Dorado can use the latest in wind energy technology to benefit from clean energy generation, lower their utility bill, secure a stable source of power and take advantage of all the attention a wind turbine can bring to a municipality.

1.2 Executive Summary

In pursuit of wind energy at the El Dorado Wetlands and Water Reclamation Facility, the City of El Dorado should plan to purchase a Nordic N1000 wind turbine, begin meeting with Westar Energy to establish net metering and interconnection agreements and commence the design phase of the wind turbine project.

The City shall also need to decide between the two sites at the WWTP property (see Section 5.1.1 Evaluated Scenarios). The west site is within the floodway and may incur additional permitting time and expense. The east site may not allow the footprint of the turbine foundation without disturbing the existing wetlands, given the setbacks required from the US 77 right-of-way.

2009 Cost of Energy	\$56.60 /MWh
2010 Cost of Energy	\$58.59 /MWh
Percent Increase	3.87%
2009 Energy Consumed	2,300 MWh
Wind Turbine Installed	Nordic N1000
Wind Turbine Capacity	1 MW
Estimated Turn-Key Cost	\$2,223,650
Annual Energy Production	2,430 MWh
Wind Energy consumed onsite	2,257 MWh
Wind Energy exported to Grid	174 MWh
Energy imported from Grid	43 MWh
Estimated Payback with Incentives	12.1 years

Figure 1.2: Recommendation Summary

2. Wind and Energy Analysis

2.1 Project Site

The graphic below is an aerial photo showing the El Dorado Wetlands and Water Reclamation Facility property. The graphic is from Google Maps.



Figure 2.1a: Aerial Photo with East and West considered turbine locations

Two locations at the WWTP were analyzed in this report. The west location is just northwest of the existing wastewater treatment plant. The east location is abutting US77 at the entrance to the property. Three electric utility connection scenarios were analyzed in total for these two sites. The three scenarios are discussed in Section 5.1.1 Evaluated Scenarios.

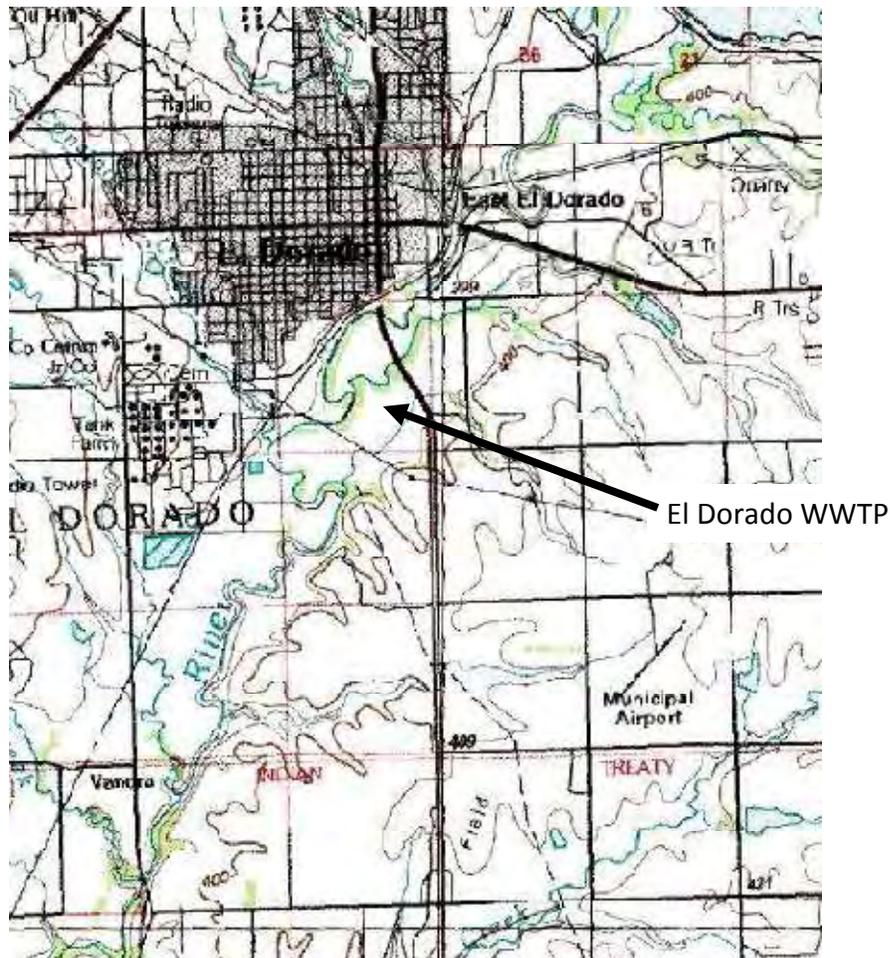


Figure 2.1b: USGS Topo Map

2.2 Data & Assumptions

2.2.1 Energy Consumption

Based on the 2009 annual Westar Energy statement, the energy use at the WWTP for 2009 was 2,300 MWh. The energy consumption averages 191.6MWh per month, ranging in 2009 from 157.5MWh in November to 230MWh in January. A comparison of the monthly energy consumption in 2009 to the mean wind speed can be found in Section 2.3.1 Wind Resources.

It is projected that the energy usage at the WWTP will increase each year as the population served by the plant is expected to increase each year.

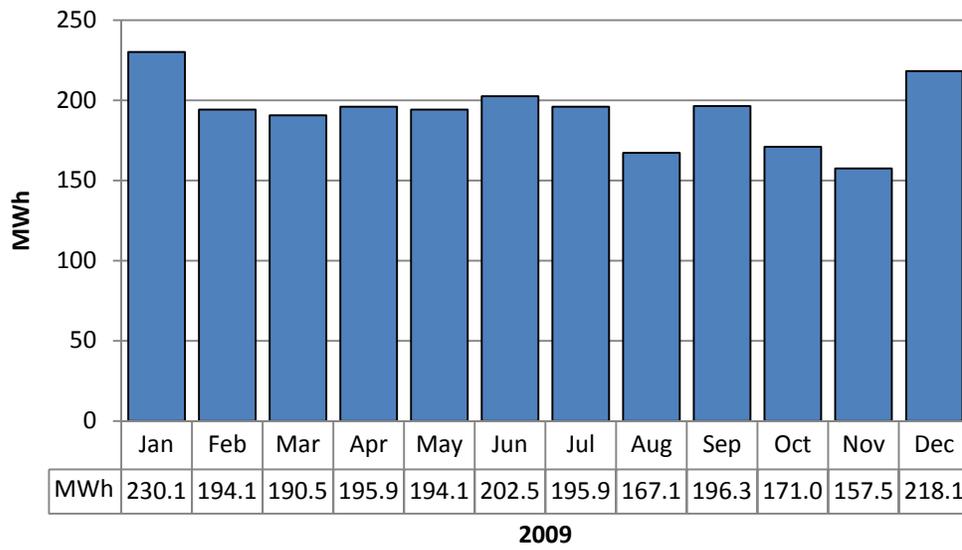


Figure 2.2.1: Monthly energy consumption (MWh) in 2009

2.2.2 Cost of Energy (COE)

The El Dorado Wetlands and Water Reclamation Facility paid an average of \$0.0566 per kWh in 2009. Of this average, \$0.0564 was for energy charges, fees and taxes that are based on power consumed each month and \$0.0002 was for fees and charges that are fixed each month.

Westar estimates the City of El Dorado will pay an average of \$.0588 per kWh in 2010. Of this average, \$0.0586 will be for energy charges, fees and taxes that are based on power consumed each month and \$0.0002 will be for fees and charges that are fixed each month.

2.2.3 COE Escalation Rate

The future costs of energy are uncertain; predictions on the rate of escalation vary greatly. The importance and the need for renewable energy technologies increase with the rise in energy costs. If carbon emission legislation is enacted, energy prices in regions heavily dependent on coal for electricity generation could see dramatic price increases.

Since 2006, retail electric energy costs in Kansas have increase at about 6% per year on average. Over the next 20 years, DOE-EIA predicts a nation-wide average annual increase of about 2.3% for industrial users, not considering the affect of possible carbon legislation.

The percentage increase in the City of El Dorado’s utility bill from Westar Energy for 2010 is projected to be 3.87% higher than 2009.

2.3 Resource Assessment

2.3.1 Wind Resource

At the El Dorado Wetlands and Water Reclamation Facility, the expected long-term mean wind speed at 55m is 7.0 m/s, with a confidence range of 6.65 to 7.35 m/s. The expected mean wind power density is 286 W/m², and the best-fit Weibull k is 2.57.

Mean annual Wind Speed: 7 m/s (15.66 mph)

Power Density: 286 W/m²

Weibull A: 7.7 m/s (17.23 mph)

Weibull k: 2.57

50 Year Max Gust: 37.8 m/s (84.56 mph)

Uncertainty Estimate: +/- 0.35 m/s (0.78 mph)

Interannual Variation: 0.21



Figure 2.3.1a: Mean annual wind speed at 60m height

The wind resource estimates are based on AWS Truwind's proprietary atmospheric modeling systems, MesoMap and windTrends, available exclusively through windNavigator. The effective horizontal resolution of the wind resource data is 2.5 km. The power density is derived from the site speed frequency distribution and air density. The Weibull function is an analytical curve that describes the wind speed frequency distribution, or number of observations in specific wind speed ranges. Its two adjustable parameters allow a good fit to a wide range of actual

distributions. A is a scale parameter related to the mean wind speed while k is dependent on the width of the distribution. Values of k typically range from 1 to 3.5; the higher values indicate a narrower distribution. The interannual variation is the standard deviation of annual wind speed values from 1997 to the present.

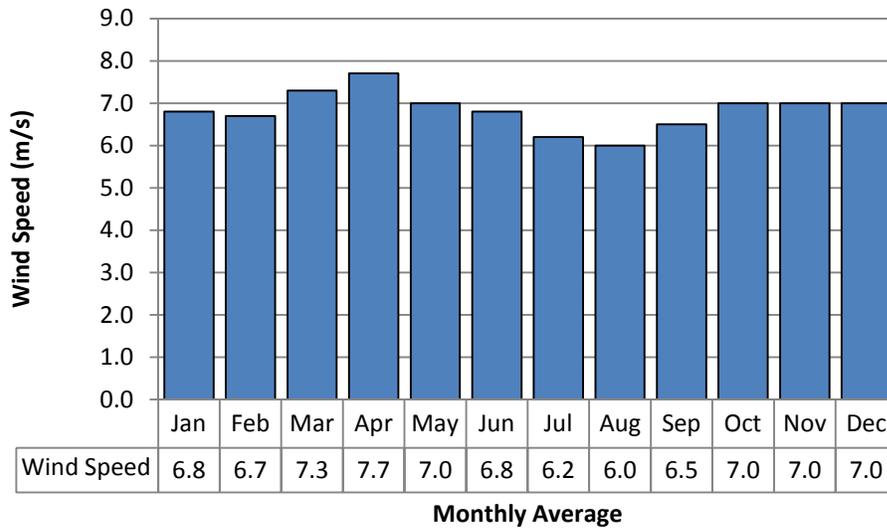


Figure 2.3.1b: Mean wind speed (m/s) by month at 55m height

A comparison of the monthly energy consumption in 2009 to the mean wind speed can be found in

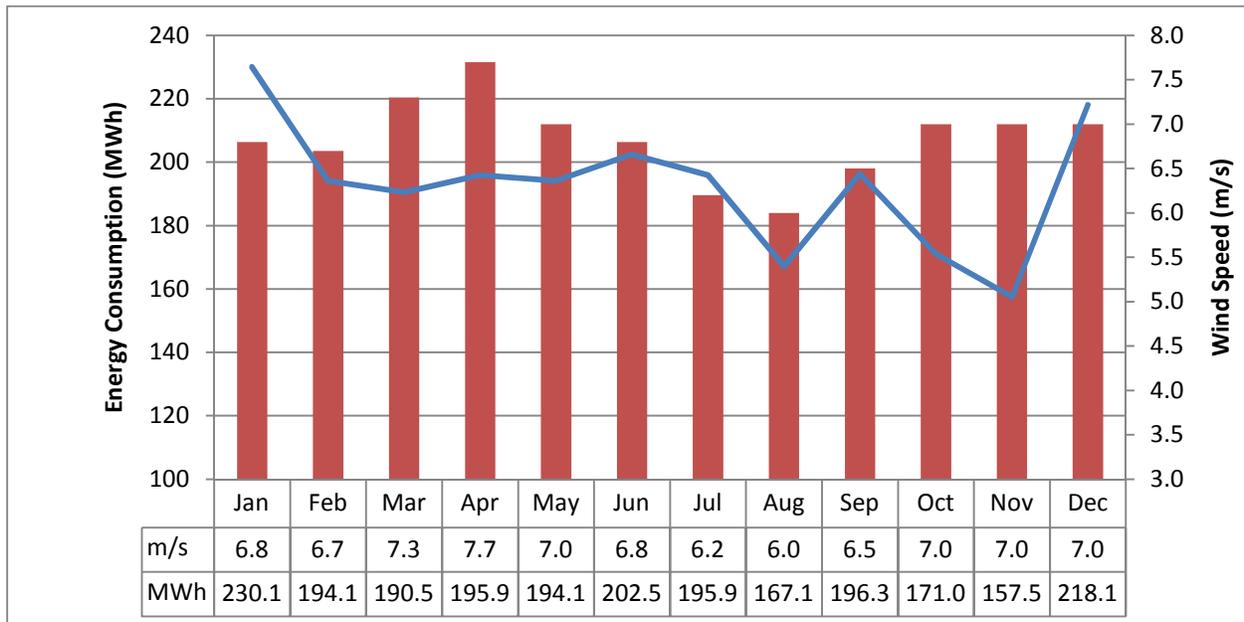


Figure 2.3.1c: Monthly energy consumption in 2009 compared to the mean wind speed at 55m height

A wind rose summarizes the typical distribution of wind speed and direction for a specific location. A wind rose shows the frequency of winds blowing from particular direction over a period of time that is typically 15-30+ years.

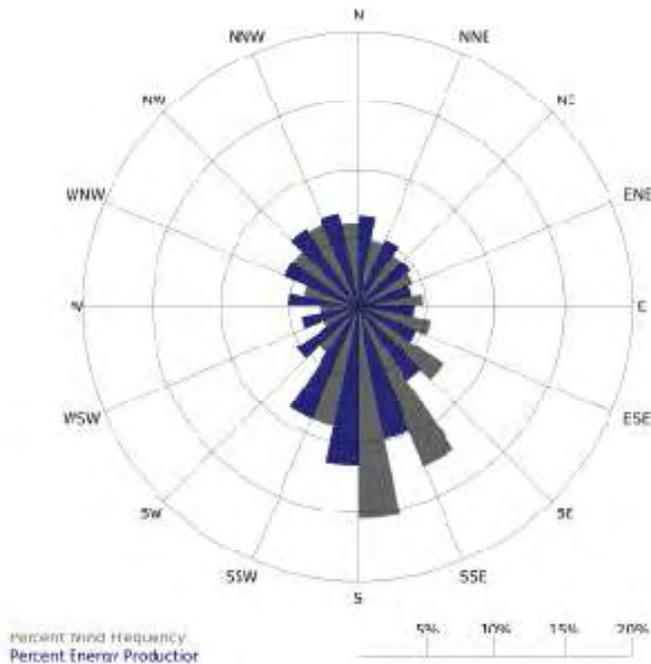


Figure 2.3.1c: Annual wind frequency and energy content (percent) by direction sector at 55m height.

2.4 Electric Utility Connection

2.4.1 Interconnection Requirements

The proposed wind turbine will be connected to supplement energy presently being purchased from Westar. The wind turbine would operate parallel to the utility source. The parallel connection is required for wind turbines to operate, and in fact they will not operate if there is no utility source available. Also, it is not recommended to operate in parallel with another generator (e.g. backup diesel generator). In the utility industry, operation of a customer’s generator parallel to the ‘grid’ is called an “interconnection”.

Keeping your system connected to the grid also allows you to continue to purchase power from the utility when your system generation does not meet your facility consumption needs. Special rules apply to interconnected customer generators. These rules are intended to protect the utility company’s workers, ensure the reliable operation of their system and protect the customer’s generator. Utilities require an Interconnection Agreement to be negotiated before you are able to connect to the grid.

There are a number of technical requirements for interconnection which are described in Westar’s “Facility Interconnection Standard”. The wind turbine will be required to comply with

these rules. Further, Westar has the right to charge the customer for modifications required to its system to accommodate the interconnection.

2.4.2 Disposition of Energy

The energy from an interconnected generator flows into the grid. Just as in the case of an oil or gas pipeline, it is not possible to say exactly what energy flows where. Energy from your generator may supply your plant or may supply your neighbor, or may supply another customer across the state. Electricity meters are installed to account for the flow of energy. There are several methods to meter customer-owned generators.

2.4.2.1 Separate Meter

The traditional approach is for the utility to provide a meter dedicated to the generator, which measures the energy produced and exported to the grid.

Since the federal Public Utility Regulatory Policies Act (or PURPA) was passed in 1978, most utilities have been required to purchase energy from anyone who can connect to the utility's system, at the utility's "avoided cost of energy." The avoided cost is defined by the Federal Energy Regulatory Commission (FERC). Avoided cost is normally much less than the retail rate utilities charge customers. The Kansas Corporation Commission now requires investor-owned utilities to pay 150% of the utility's avoided cost for customer-generated energy. Westar administers this under their Parallel Generation (PG) tariff rider. Westar's rate for April through June of 2010 will be \$0.0280 / kWh.

Many utilities, including Westar, now have regulatory requirements to produce a certain portion of their energy from renewable sources. This is called a renewable portfolio standard (RPS). Some utilities are now willing to pay more than avoided cost for renewable source energy. Westar indicated that they may be willing to negotiate a better rate for purchase of wind energy from this project.

Other options include selling the energy to the wholesale market or to remote users. Generally these options are not available for small generators such as this.

2.4.2.2 Behind the Meter

If the owner of the generator also is an energy consumer, it is usually advantageous to offset retail purchase of energy rather than sell the energy. This is usually accomplished by connecting the generator on the customer's side of the meter servicing the load.

Most utilities are willing to allow such an arrangement and will pay the customer for any excess generation at applicable purchase rates. The disadvantage of this arrangement is that if you have an unpredictable generation source, such as wind or solar, and output is not available when you need it to offset use, it must be sold to the utility at avoided cost rather than retail purchase rates.

Westar allows for behind-the-meter connection under their Parallel Generation tariff rider.

2.4.2.3 Net Metering

Recently many utilities, recognizing the value of renewable source energy, have taken the behind-the-meter concept one step further and agreed to offset excess generation against future retail purchases. This in effect allows the customer to use all of the renewable source generation to offset purchase at the retail rates.

Net metering allows a utility customer who produces more electricity than they consume to carry any net excess generation (NEG) forward at the full retail rate to periods where consumption exceeds generation. Any NEG remaining in the customer's account at the end of the accounting period (commonly calendar year) will be granted to the utility. In effect, the utility acts as a battery for the customer's excess generation. A net metered generator must be appropriately sized so as not to exceed expected consumption.

In May 2009 the Kansas legislature established a requirement for net metering for customers of investor-owned utilities in Kansas (HB 2369). A system capacity limit was set that allows residential systems up to 25 kW and non-residential systems up to 200 kW to offset onsite electricity consumption. HB 2369 gave the KCC one year to put rules for net metering into effect.

To date, Westar does not have a tariff for net metering. In discussions about this project, Westar has indicated a willingness to negotiate a net metering arrangement for the City of El Dorado for this project. This would probably be the most advantageous arrangement for the City.

2.5 Project Size Recommendation

The City has indicated a desire to produce enough energy on-site for operation of the WWTP. In 2009, the plan consumed approximately 2,300 MWh.

If an equitable long-term net metering arrangement can be negotiated with Westar, the wind turbine should be selected to offset expected energy use on an annual basis.

Without net metering, the economics of a wind turbine are uncertain. The next step would be to obtain daily and seasonal energy consumption profiles and perform a statistical estimate of likely energy bill reduction.

The City, desiring to be a "green" citizen, may elect to proceed with sizing to offset total annual energy use, even without net metering, but economic payback in that scenario is uncertain.

3. Site Evaluation

3.1 Permitting and Zoning requirements

3.1.1 Land Use regulations

For municipalities without a wind turbine ordinance, a special use permit is generally required for a wind turbine installation. Given that the project site is a municipal facility, it is assumed that local permits will be issued.

3.1.2 Federal Aviation Administration (FAA)

The Federal Aviation Administration (FAA) considers three impacts to airports and airspace: Imaginary Surface, Operational Impact, and Electromagnetic Interference. The FAA must be notified if a proposed structure's construction or alteration is

- taller than 200' above ground level
- within 20,000 feet of a public-use airport with at least one runway over 3,200' long and the structure exceeds a 100:1 surface from any point on the runway
- within 10,000 feet of a public-use airport with the longest runway less than 3,200' long and the structure exceeds a 50:1 surface from any point on the runway
- within 5,000 feet of heliport and the structure exceeds a 25:1 surface

The FAA must be notified through form 7460-1 (Notice of Proposed Construction or Alteration). After filing form 7460-1, it takes approximately 45 days for affected divisions to respond and the FAA to contact you. The FAA will at that point make a Determination of No Hazard to Air Navigation (DNH) or a Notice of Presumed Hazard (NPH). If the structure is issued a NPH, you will be issued a no effect height and an explanation of what you are affecting at the airport or in the airspace. Obstruction marking and or lighting may also be required.

The Captain Jack Thomas El Dorado Airport with two runways approximately 4,200' long each is located approximately 10,000' from the El Dorado Wetlands and Water Reclamation Facility property. The FAA will need to be notified of a wind turbine project at this site.

3.1.3 National Pollutant Discharge Elimination System (NPDES)

A National Pollutant Discharge Elimination System (NPDES) permit from the Kansas Department of Health and Environment (KDHE) will be required for the project work since disturbance will be greater than one acre. Because a permit is required, a Stormwater Pollution Prevention Plan will need to be prepared. The project will be required to utilize erosion and sediment control measures to minimize the impact on water quality to meet State and City requirements. The review period for the State on a NPDES permit is approximately 60 days.

3.1.4 Threatened and Endangered Species

The Endangered Species Act of 1973, et seq. (ESA, 16 UDC 35, Public Law 93-205) assigned the Department of Interior, U.S. Fish and Wildlife Service (USFWS) to establish a list of federally protected species. Projects which receive federal funding or federal approval, including permits,

must comply with ESA. The Kansas Department of Wildlife and Parks (KDWP) is responsible for the determination of state level status of species.

A list of federal and state listed species was reviewed for Butler County. Due to the current land use for the proposed turbine locations, maintained turf grass, it is unlikely threatened and endangered species or State species in need of conservation are present. However, prior to disturbance activities the USFWS and KDWP will be contacted to request records of threatened and endangered species in the project area.

3.1.5 Migratory Bird Act

Migratory birds are protected by the Department of Interior and USFWS according to the Migratory Bird Act. The Act states, “Unless permitted by regulations, the Act provides that it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not. Subject to limitations in the Act, the Secretary of the Interior (Secretary) may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits and migratory flight patterns.”

Coordination with USFWS should be conducted. The USFWS may require an avian assessment for the turbine project.

3.1.6 Bats

Coordination should be done with U.S. Fish and Wildlife Service regarding the need for any surveys including bat assessments. U.S. Fish and Wildlife will determine what surveys if any will be needed for the project.

3.1.7 Cultural Resources

As directed by Section 106 of the National Historic Preservation Act (P.L. 89-665, as amended), the head of any Federal agency having jurisdiction or license control over a proposed undertaking shall take into account the effect of the undertaking on cultural resources included in or eligible for inclusion in the National Register of Historic Places (National Register).

In compliance with these regulations, consultation with the Kansas State Historic Office (SHPO) is required. The initial consultation shall be in the form of a letter sent to SHPO. They have 30 days to respond with clearance for the project or a request for a cultural resource survey.

According to the National Register several structures located within the City of El Dorado are on the list. SHPO may require the review of view shed impacts on the structures from the turbine.

3.1.8 Floodplain

Of the two proposed turbine locations, the east wind turbine site lies within Zone AE of the Special Flood Hazard Area Subject to the 1% Annual Chance Flood, more commonly known as the 100-yr floodplain, of the Walnut River. The other location lies within the Floodway boundaries of the river. The Floodway is described by FEMA as the area “where the water is likely to be deepest and fastest”. Any proposed fill or construction within the Floodway will require detailed engineering analyses to be performed and a No-Rise Certificate to be obtained. If a No-Rise Certificate cannot be obtained, notification to affected upstream property owners will be required. A floodplain development permit will be required for this project since it is in the floodplain or floodway.

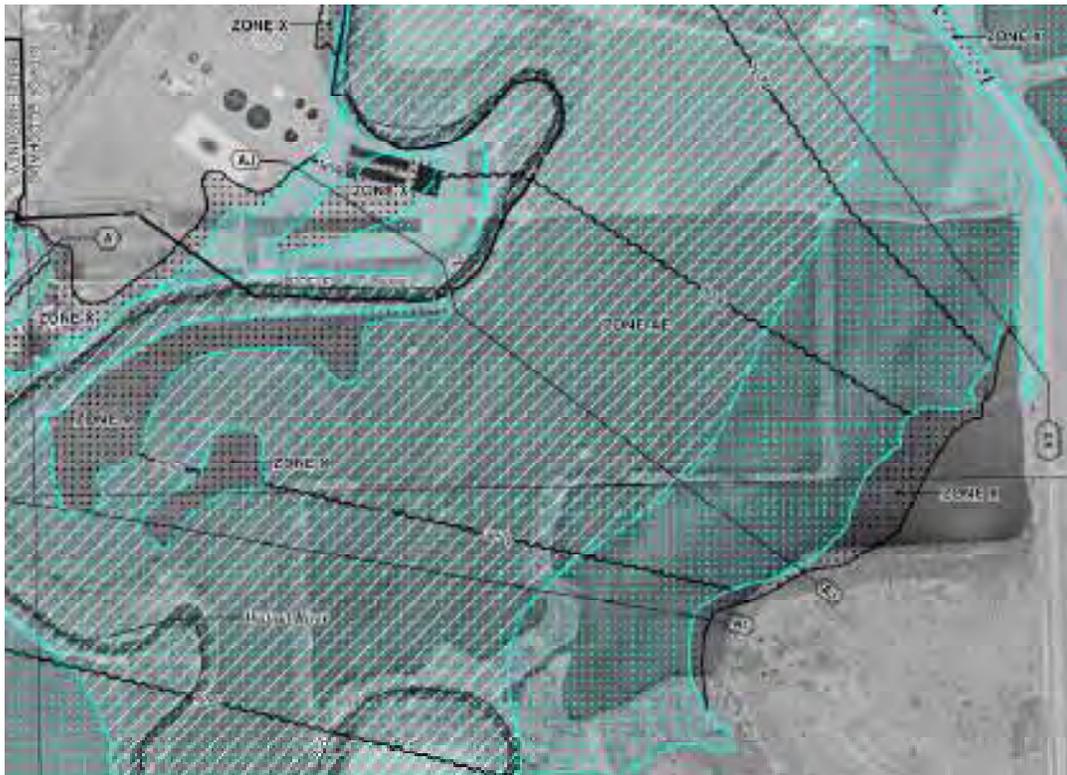


Figure 3.1.8: Flood Insurance Rate Map (FIRM)

3.1.9 Wetlands and Other Waters of the United States

The U.S. Army Corps of Engineers (Corps) has been delegated authority to regulate waters of the U.S. (wetlands, streams, rivers, ponds, etc.) under the Clean Water Act. Section 404 of the Clean Water Act describes the dredge and fill responsibilities of the Corps.

According to the USGS Topographic map and an aerial photograph, a channel enters the northeastern section of the site at Highway 77 and flows southwest across the site to the Walnut River. The Walnut River is located to the west of the site. Created wetlands are located in the northern section. A USFWS National Wetlands Inventory was not available for review.

An onsite delineation of the site should be conducted prior to construction activities. If impacts greater than 1/10 of an acre to waters of the U.S. are proposed then contact with the Corps is required and a Section 404 permit obtained. If less than ½ acre of impacts is anticipated then a Nationwide Permit may be used. The review time for a Nationwide Permit is 45 days. Since the impacts for this project exceed ½ acre, then an Individual Permit will be required. The review time for an Individual Permit is 120+ days.

3.1.10 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) (42 USC 4321-4347) requires that Federal agencies consider environmental consequences of major Federal actions and include these considerations in their decision making process. A NEPA document is to provide sufficient evidence and analysis to determine whether implementation of project work would result in significant effects on the environment. A NEPA document may be required for the project if federal funding is proposed.

3.2 Property Description

3.2.1 Project Property and Surrounding Area

The site is located at 37.79679 -96.85084, at an elevation of 387m (1269.8ft) above mean sea level. The surrounding area is cropland with occupied structures, including residences, within one mile of the property. All but the western border of Butler County is within the Flint Hills Ecoregion. The land east of US 77 is categorized as Heart of the Flint Hills area.

3.2.2 Wind Disturbance Area

A wind turbine is generally sited a distance away from obstacles to minimize the impact of turbulence on the turbine's performance. The rule of thumb is to place the turbine so that the lowest point of the rotor is 30' above any obstruction within 300'-500', depending in the prevailing wind direction. The setback in areas where topography includes steep hills and cliffs is greater due to additional turbulence.

3.3 Existing Infrastructure

3.3.1 Utility accessibility

The WWTP is served by Westar at 480 volts/3-phase from a pad-mounted transformer at the plant. The transformer is fed via underground primary cables from the overhead line along US77. Likely wind turbine options have 690 or 600 volt output and will require a dedicated transformer. The existing underground primary may be tapped or another connection made from the overhead line at US77 to serve the turbine.

3.3.2 Utility conflicts

As the property for the proposed wind turbines is an operating wastewater treatment plant, consideration needs to be given to the location of underground utilities when the site and size of the wind turbine foundation is determined. As-built utility plans will be required for this determination, as will a conversation with plant managers about areas for future expansion.

4. Technology Selection and Evaluation

4.1 Turbine Evaluation

Turbines considered for the El Dorado Wetlands and Water Reclamation Facility:

Manufacturer	Turbine	Size (kW)	Comment
Elecon	T600-48	600	Analyzed
Suzlon	S52-600	600	Analyzed
Aeronautica	Norwin 47-750	750	ARRA Section 1605 compliancy not available
Gamesa	G58-850	850	Analyzed
Vestas	V52-850	850	ARRA Section 1605 compliancy not available
Americas Wind Energy	AWE 54-900	900	Production not available
Mitsubishi	MWT-1000A	1,000	Analyzed
Nordic	N1000	1,000	Analyzed
Suzlon	S64-1.25	1,250	Analyzed
GE	GE 1.5	1,500	Meets ARRA Section 1605 compliancy, Determined to be oversized
Suzlon	S82-1.5	1,500	Determined to be oversized

Figure 4.1a: Wind turbines considered for analysis

The following annual energy productions were calculated for the analyzed turbines based on the assumptions stated below.

Assumptions-

- 7.0 m/s average wind at 55m above ground
- Wind shear exponent = 0.14
- Shape factor (Weibull k) = 2.57
- Average annual temp = 13C
- Average annual atm press = 97.6 kPa
- Average annual availability = 95%
- System losses = 0

Manufacturer	Turbine Model	Capacity (kW)	Hub Height (m)	Annual Energy Production (MWh)
Elecon	T600-48	600	50	1,660
Suzlon	S52-600	600	75	1,920
Gamesa	G58-850	850	55	2,160
Mitsubishi	MWT-1000A	1,000	55	2,560
Nordic	N1000	1,000	70	2,430
Suzlon	S64-1.25	1,250	65	3,430

Figure 4.1b: Annual Energy Production of selected Wind Turbines

Elecon returned GBA's first contact. The manufacturer's representative needed to determine if the turbine met ARRA Section 1605 compliancy and would send additional information on the

turbine. Elecon has not responded to the request for information prior to publication of this report. Due to the slow response time of communication, this turbine is not recommended.

Suzlon has not responded to the request for information prior to publication of this report. Due to the lack of responsiveness, unverified ARRA Section 1605 compliancy and lack of a monopole tower option on the S52-600 model, this turbine manufacturer is not recommended.

Gamesa has not responded to the request for information prior to publication of this report. Due to the lack of responsiveness and unverified ARRA Section 1605 compliancy, this turbine is not recommended. If a second choice of turbine or a smaller turbine model is needed, this manufacturer should continue to be pursued for additional information and verification of ARRA Section 1605 compliancy.

Mitsubishi responded immediately to GBA’s requests for information and verification of ARRA Section 1605 compliancy. However Mitsubishi will not sell this model in quantities less than 60 units, so the MWT-1000A wind turbine was determined to not be an option.

Nordic responded immediately to GBA’s requests for information and verification of ARRA Section 1605 compliancy. This is the recommended manufacturer and the Nordic N1000 turbine is discussed in greater detail below.

4.2 Turbine Recommendation

Based on the annual energy use of the facility, the annual energy production of analyzed turbines, the availability of wind turbine models and the responsiveness of the manufacturer, the Nordic Windpower N1000 wind turbine is recommend. The turbine data sheet can be found in the Appendix and the turbine is summarized below.

N1000 Technical Data	
Nominal Power	1000 kW
Certification	DNV Design to IEC Class IIIa
Rotor Diameter	59 m
Number of Blades	2
Hub Height	70 m
Diameter top/bottom	1.9/3.0m

Figure 4.2: Technical Data for Nordic N1000 Wind turbine

4.3 Turbine Sound Analysis

Noise produced by wind turbines has diminished greatly as technology has advanced to the point that the noise emitted by a wind turbine is often masked by the ambient noise of the wind itself. The energy in sound waves (and thus the sound intensity) will drop with the square of the distance to the sound source. In other words, if you move 200 m away from a wind turbine, the sound level will generally be one quarter of what it is 100 m away.

Technical Committee 88 (TC-88) of the International Electrotechnical Commission (IEC) developed the International standard for wind turbine acoustic noise measurement. IEC 61400-11 Noise Measurement was developed to provide a uniform methodology that will ensure consistency and accuracy in the measurement and analysis of acoustic emissions by Wind Turbine Generator Systems (WTGS). The Nordic N1000 is compliant with IEC 61400-11, with a noise level less than 104 dB(A) at 8 m/s at the hub.

The chart below illustrates comparative noise levels.

Noise	dB(A)
Quiet Room	45
Conversation	60
Vacuum Cleaner at 10'	70
Garbage Disposal	80
Hair Dryer	90
Garbage Truck	100
Leaf Blower	110
Clap of Thunder	120
Auto Racing	130
Trumpet, 5 inches away	150
12-gauge shotgun	165

Figure 4.3: Comparison Noise Levels dB(A)

Noise associated with the construction and turbine installation process may be significant. Any nearby residences, businesses and public facilities need to be taken into consideration during construction and installation scheduling to minimize the disturbance created by truck traffic, heavy equipment, blasting (if needed) and other activities

4.3 Additional Turbine Recommendations

Nordic Windpower recommends a 300 m /1000 ft setback from residences, hospitals, schools and parks. Deviations to 225m /750 ft will be considered with appropriate waivers, and adherence with noise, flicker concerns and local ordinances. Nordic Windpower also recommends a 110 m /360 ft setback from lightly used roads and property lines. Deviation may be considered based on local ordinances or an easement with adjacent property owner

5. Engineering and Economic Evaluation

5.1 Engineering Evaluation

5.1.1 Evaluated Scenarios

There were three scenarios considered. See Section 2.1 Project Site for location of east and west sites.

- Scenario 1: One Nordic wind turbine installed at the west site, on the customer side of the meter
- Scenario 2: One Nordic wind turbine installed at the east site, on the customer side of the meter
- Scenario 3: One Nordic wind turbine installed at the east site, all energy sold to Westar

All three scenarios will require very similar foundation, infrastructure improvements and permitting process, with the exceptions outlined below.

Scenario 1 will probably require relocation of the existing Westar revenue meter to upstream of the wind turbine and WWTP connection and transfer of the circuitry downstream of the new meter location from Westar to the City. The existing underground primary cables would be tapped with a new pad-mounted switchgear nearest the wind turbine location, and a new transformer dedicated to the wind turbine would be installed. Road modifications might be necessary for delivery of the tower sections based on turning radius on the approach leading to the (WWTP) facility. If after evaluation of the existing road it is determined that modifications are necessary a solution will be selected based on efficiency, economy, and impact of the surrounding area. A No-Rise Certificate will need to be obtained as this site is in the floodway.

Scenario 2 will probably require relocation of the existing Westar revenue meter to upstream of the wind turbine and WWTP connection and transfer of the circuitry downstream of the new meter location from Westar to the City. The existing underground primary cables would be tapped with a new pad-mounted switchgear nearest the wind turbine location, and a new transformer dedicated to the wind turbine would be installed. A floodplain development permit will need to be obtained as this site is in the floodplain. Wetland permitting may increase as there is little space between the US77 right-of-way and the existing wetland.

Scenario 3 will probably require an electrical system similar to Scenario 2, except that a separate secondary meter will be installed instead of the primary meter and transfer of ownership of the circuitry should not be required. This will need to be confirmed with Westar. A floodplain development permit will need to be obtained as this site is in the floodplain. Wetland permitting may increase as there is little space between the US77 right-of-way and the existing wetland.

5.1.2 Utility Connection

Due to the turbine having outputs at 690 volts or 600 volts, it is recommended that a dedicated transformer be installed, connected at primary distribution voltage (12.47 kV) and with secondary voltage to match the turbine selected.

In order to accomplish net metering, it will be necessary to relocate the present Westar revenue meter from the WWTP location to a point upstream of the wind turbine and WWTP. The most likely location for the meter would be at Westar's dip pole near US77. As a primary meter, this will require transfer of all of the underground primary cables and transformer downstream of the meter from Westar to the City. Westar would expect to be compensated for this equipment. They have not been able to provide an estimate of cost for that. Based on cost of similar new facilities, we estimate the cost to be about \$71,000. The City would henceforth be responsible for maintenance of those facilities.

The connection method would be similar whether the turbine is located near the plant or near US77.

We have estimated the costs associated with this work, including the facilities to be transferred from Westar, and included it in the payback calculations.

5.1.3 Foundation Evaluation

A geotechnical investigation will be required before the foundation can be designed. At the present time, the quality of soils and depth to rock is not known. Since both proposed turbine locations are in the floodplain of the Walnut River, it is anticipated that the soils may not be very good and that some type of subgrade modifications may be needed if a spread footing type foundation is used.

The most common type of foundation is a spread footing type foundation. Another type of foundation is a deep foundation that could consist of piles driven into the ground or drilled shafts that are drilled into the ground and filled with reinforced concrete. After the geotechnical investigation is performed, the most economical foundation type will be determined.

5.1.4 Construction Assessment

Site disturbances should be limited to 3 acres with restoration to original condition following construction. This area will be used for lay down and staging of the turbine components as well as equipment and material staging. Additional space, which can be located in a secure area offsite, might be necessary for storage of crane and material transport trailers for the duration of the turbine erection.

The location selected for the turbine may require modifications or enhancements to existing roads or infrastructure. Road condition, gradient, and turning radius will be evaluated to

determine the modifications necessary to safely and efficiently deliver and erect the turbine and related components.

In addition, overhead power lines, power poles, property lines, and protected areas will be closely scrutinized to determine the most suitable route for transporting material and equipment to and from the site.

5.2 Economic Evaluation

5.2.1 Capital Costs for Major scenarios

The following are estimated prices only. Engineer’s estimates and subcontractor bids when available were used.

Studies and Analysis	\$9,850
Engineering Design	\$110,000
Site Improvements	\$22,000
Construction	\$371,650 to \$483,300
Equipment and Installation	\$1,598,500
Commissioning and Training	\$0
Estimated Annual O&M Expense	\$17,500
Estimated Annual Utility Savings or Income	\$68,040 to \$132,260
Potential Kansas SEO Renewable Energy Incentives Grant	\$0 to \$250,000
Potential REC Income	\$0 to \$48,600

Figure 5.2.1: Summary Cost

The estimated prices in Figure 5.2.1a above include

- The Studies and Analysis cost is for the El Dorado Wind Turbine Feasibility Study
- The Engineering Design cost includes
 - geotechnical report and foundation design
 - electrical infrastructure design
 - NPDES Land Disturbance Permit with Stormwater Pollution Prevention Plan, Preliminary Agency Coordination for threatened and endangered species, Cultural Resources and Avian and Bat Assessment requirements, FEMA hydraulic analysis and permitting, Clean Water Act Section 404 Wetland identification and NEPA Questionnaire
- The Construction cost includes the excavation and construction of the foundation, the excavation and construction of the electrical infrastructure, staging of the wind turbine, and construction management during the construction phase

- The installation cost includes erection and installation of the pole, installation of the nacelle and blades and construction management during the installation phase
- The turbine estimated cost includes the turbine, commissioning, delivery and delivery insurance

The estimated prices in Figure 5.2.1a above do not include

- MET tower installations and results analysis
- FAA notice filings
- Federal, state, county and local permitting
- Acoustical studies
- Avian and Bat risk assessment and mitigation
- Cultural Resource Survey
- Threatened and Endangered species surveys and mitigation
- Section 404 Wetland delineation, permitting and mitigation
- Topographic Survey of the site
- Communication Design services
- View shed impact assessment
- Shadow Flicker analysis

5.2.2 Operating Costs

Nordic provides a full parts and labor equipment warranty for two years and options for up to five years. Service Care options are also available ranging from full O&M services to customer managed O&M. The table below summarizes the Service Care Options that Nordic offers. See the Nordic N1000 Indicative Proposal in the Appendix for more details on Nordic’s Warranty and Service Care options.

Years 1 & 2 Total Care Program	Years 3 to 5 Basic Care Program
\$20,000/year	\$17,500/year

Figure 5.2.2: Nordic N1000 Operations and Maintenance package

5.2.3 Payback Analysis

An estimated payback period for the three scenarios outlined in Section 5.1.1 Evaluated Scenarios is shown below. The payback without incentives, payback with the Kansas State Energy Office Renewable Energy Incentives Grant and Renewable Energy Credit (REC) income, and payback with incentives and an increasing cost of energy is shown. See Section 5.2.6 Renewable Energy Credit (REC) for more information on RECs.

Scenario 1: One Nordic wind turbine installed at the west site, on customer side of the meter

	Simple Payback	Simple Payback with Incentives	Payback with Incentives and increasing COE
Studies and Analysis	\$9,850	\$9,850	\$9,850
Engineering Design	\$110,000	\$110,000	\$110,000
Site Improvements	\$22,000	\$22,000	\$22,000
Construction	\$483,300	\$483,300	\$483,300
Equipment and Installation	\$1,598,500	\$1,598,500	\$1,598,500
Commissioning and Training	\$0	\$0	\$0
TOTAL	\$2,223,650	\$2,223,650	\$2,223,650
Renewable Energy Incentives Grant	\$0	\$250,000	\$250,000
NET TOTAL	\$2,223,650	\$1,973,650	\$1,973,650
Estimated Average Annual O&M Expense	\$17,500	\$17,500	\$17,500
Estimated Average Annual Utility Savings*	\$132,260	\$132,260	\$201,002
REC Income (\$.02/kWh)	\$0	\$48,600	\$48,600
AVERAGE NET ANNUAL SAVINGS	\$114,760	\$163,360	\$232,102
Payback	19.4 years	12.1 years	8.5 years

*Average calculated over 20 years assuming a 4% annual cost of energy (COE) increase

Figure 5.2.3a: Scenario 1 Cost and Payback

Scenario 2: One Nordic wind turbine installed at the east site, on customer side of the meter

	Simple Payback	Simple Payback with Incentives	Payback with Incentives and increasing COE
Studies and Analysis	\$9,850	\$9,850	\$9,850
Engineering Design	\$110,000	\$110,000	\$110,000
Site Improvements	\$22,000	\$22,000	\$22,000
Construction	\$470,800	\$470,800	\$470,800
Equipment and Installation	\$1,598,500	\$1,598,500	\$1,598,500
Commissioning and Training	\$0	\$0	\$0
TOTAL	\$2,211,150	\$2,211,150	\$2,211,150
Renewable Energy Incentives Grant	\$0	\$250,000	\$250,000
NET TOTAL	\$2,211,150	\$1,961,150	\$1,961,150
Estimated Average Annual O&M Expense	\$17,500	\$17,500	\$17,500
Estimated Average Annual Utility Savings*	\$132,260	\$132,260	\$201,002
REC Income (\$.02/kWh)	\$0	\$48,600	\$48,600
AVERAGE NET ANNUAL SAVINGS	\$114,760	\$163,360	\$232,102
Payback	19.3 years	12.0 years	8.4 years

*Average calculated over 20 years assuming a 4% annual cost of energy (COE) increase

Figure 5.2.3b: Scenario 2 Cost and Payback

Scenario 3: One Nordic wind turbine installed at the east site, all energy sold to Westar

	Simple Payback	Simple Payback with Incentives	Payback with Incentives and increasing COE
Studies and Analysis	\$9,850	\$9,850	\$9,850
Engineering Design	\$110,000	\$110,000	\$110,000
Site Improvements	\$22,000	\$22,000	\$22,000
Construction	\$371,650	\$371,650	\$371,650
Equipment and Installation	\$1,598,500	\$1,598,500	\$1,598,500
Commissioning and Training	\$0	\$0	\$0
TOTAL	\$2,112,000	\$2,112,000	\$2,112,000
Estimated Annual O&M Expense	\$17,500	\$17,500	\$17,500
Estimated Annual Utility Income	\$68,040	\$68,040	\$101,305
AVERAGE NET ANNUAL INCOME	\$50,540	\$50,540	\$83,805
Simple Payback	41.8 years	41.8 years	25.2 years

Note: Scenario 3 is not eligible for the Renewable Energy Incentive Grant or RECs.

*Average calculated over 20 years assuming a 4% annual cost of energy (COE) increase

Figure 5.2.3c: Scenario 3 Cost and Payback

With net metering, a simple payback of 8.4 to 19.4 years can be expected depending on incentives received. This assumes zero inflation and makes an estimate on the expected increase in the cost of energy beyond the 2010 rates.

5.2.4 Cost for no action

El Dorado's electric bill is expected to be 3.87% higher in 2010 compared to 2009 due to new rates. Assuming an annual electric utility expense of \$135,000, the table below shows the accrued expense of continuing to purchase 100% of the consumed energy. Accrued expenses with an annual increase in the rates are also shown.

Length of Time	Possible Rate Increases			
	0.0%	2.5%	5.0%	7.5%
5yrs	\$675,000	\$709,604	\$745,960	\$784,133
10yrs	\$1,350,000	\$1,512,457	\$1,698,015	\$1,909,857
15yrs	\$2,025,000	\$2,420,810	\$2,913,106	\$3,525,979
20yrs	\$2,700,000	\$3,448,529	\$4,463,904	\$5,846,132

Figure 5.2.4: Projects Cumulative Westar Energy Bills

5.2.5 Renewable Energy Credit (REC)

Renewable Energy Credits (RECs) or Green Tags: While still an emerging market and not available in all states or counties, RECs are a tradable commodity representing units of energy generated from renewable sources. The REC purchaser receives only a certificate as the

renewable energy is placed on the grid where it is generated; the funds generated subsidize the cost of renewable energy generation. A potential \$0.01 to \$0.04 per kWh in RECs is available in areas with a Renewable Portfolio Standard (RPS) or where voluntary buyers can be found.

For comparative purposes, we included an option receiving \$0.02 per kWh for REC's in Section 5.2.3 Payback Analysis.

5.3 Financial Incentives

5.3.1 Grants

Kansas Renewable Energy Incentives Grant: The Kansas State Energy Office created the Renewable Energy Incentives Grant to distribute funding received from the U.S. Department of Energy (DOE), under the Energy Efficiency and Conservation Block Grant (EECBG) program. The purpose of the Renewable Energy Incentives Grant is to provide funding through a competitive grant process to assist the public sector in developing, implementing and installing a renewable energy source.

Four rounds of grant applications with funding totaling \$3.8 million have already begun. The deadline for Round 1 has passed. The deadline for Round 2 is April 15, Round 3 is June 15 and Round 4 is July 23. Eligible projects include solar and wind installations with a nameplate capacity of at least 25kW.

5.3.2 Tax incentives

Modified Accelerated Cost-Recovery System + Bonus Depreciation (MACRS + Bonus): A number of renewable energy technologies are classified as five-year property in MACRS, including most types of solar, wind turbines 100kW or less, and geothermal. Additionally, a 50% bonus depreciation provision in year one for eligible renewable energy systems is available.

Since this project is over 100kW, MACRS does not apply.

Sales Tax and Property Tax Exemption: Many states have statutes exempting the value added to a property by the addition of a renewable energy system from property taxes. Other state statutes exempt the total cost of the renewable energy system from the state sales tax.

Since this is a public project, we have not included sales tax in the cost estimates.

5.3.3 Alternative / Third-party ownership

Power Purchase Agreement (PPA): This is an agreement that a user enters into with a private entity which is responsible for owning and maintaining a wind turbine at the facility, while selling the power it generates to the facility at favorable rates. These agreements are long-term and allow for a predictable cost of electricity over the life of the wind turbine. In addition, it has the advantage of eliminating the need for a large up front capital expenditure and removes the responsibility for annual maintenance. Many such PPA investors exist, and are particularly interested in working with state, county and local governments as well as

educational institutions, for the obvious reason that budgets are generally stable and continued use of the facilities into the future is certain.

The City has indicated they are not interested in this option.

5.4 Additional Benefits

5.4.1 Energy Independence

Diversifying one's energy portfolio reduces the dependence on imported fossil fuels and the associated volatile prices. Generating your energy locally helps keep the economic benefits in the community. The decentralized energy generation also helps to reduce the burden on the national grid, improving its reliability.

5.4.2 Educational and Marketing Opportunities

While it is easy to understand how lower, predictable utility bills benefit one's bottom line, many additional benefits that cannot be summarized in economic terms come with wind energy. Most consumers prefer sustainable business practices, and a wind turbine is a very conspicuous statement of commitment to sustainability. And while wind turbines have been generating electricity in the United States for over 120 years, El Dorado, Kansas has yet to see a community scale wind turbine installed. The publicity generated for the City of El Dorado for taking this step towards independent and clean energy generation will spread throughout the community and across the state.

5.4.3 Clean Electricity

Wind is a renewable, pollution free source of electricity. Wind Energy does not generate air or water emissions. It does not release greenhouse gasses such as carbon dioxide. Wind energy does not deplete a natural resource. It is estimated that by installing 1,000 kW of wind energy the City of El Dorado will prevent 1,745 metric tons of carbon dioxide from being released into the atmosphere every year. This is equivalent to the emissions from 334 passenger vehicles.

6. Project Phases and the Next Steps

The typical steps in a Renewable Energy Project are

1. Prefeasibility Discussion
2. Feasibility Study and Discussion
3. Engineering Design
4. Construction
5. Installation and Commissioning
6. Operations and Maintenance
7. Decommissioning

City of El Dorado is in the second phase of a Renewable Energy Project by completing this Wind Turbine Feasibility Study.

6.1 Engineering Design

The engineering design phase includes

- Commissioning and review of geotechnical study
- Foundation design
- Electric infrastructure design
- Environmental studies for required permitting
- Site improvement design
- Utility coordination

The permitting and financing paperwork also begins in this phase.

6.2 Construction

A typical construction schedule would include

- Ordering turbine and electrical components
- Filing and/or collecting required permits
- Preparation of the site, including any required construction access improvements and erosion control measures
- Excavation and installation of the foundation
- Excavation and installation of the electrical infrastructure
- Staging of the wind turbine, including blades, nacelle and pole

6.3 Installation and Commissioning

Following the construction of the needed infrastructure, the wind turbine can be assembled and erected. Once the turbine is erected, a commissioning agent will commission the systems. Weather can play a large factor in the cost and time schedule of the installation and commissioning phase. While strong winds are beneficial for generating energy, winds have to be calm for the installation process. Additionally, portions of the commissioning process require strong enough winds to turn the rotor.

6.4 Operations and Maintenance

Annual maintenance is important to protect the investment that is a wind turbine. Operation and maintenance packages, as well as extended warranties, can be purchased from the manufacture or a third party provider.

Additional insurance coverage is often needed for the wind turbine.

6.5 Decommissioning

Turbines have a typical design life of 20-30 years, depending on the level and quality of maintenance. Regardless, a turbine owner should plan for the expense of decommissioning at the end of the useful life of the system. Current options include dismantling the turbine, deconstructing the electrical service and removing the top portion of the foundation; or replacing the turbine and electrical and structural components as needed, with a newer, more efficient turbine. It is not feasible to project a course of action or associated cost for decommissioning.

7. GBA Background

GBA is a full-service professional design firm providing a wide range of sustainable engineering, architectural and planning design solutions to clients in the public and private sectors. These clients include cities, counties, state and federal agencies, school districts, commercial and residential developers, major corporations, hospitals, educational institutions, utility companies, professional service firms, and contractors.

Since GBA's establishment in 1969, the firm has grown dramatically in both size and capability. Some of this growth can be attributed to the expanded use of services by many of GBA's earliest clients. GBA's growth is also the result of the firm's ability to attract a highly qualified staff of professionals representing a broad spectrum of design and planning disciplines. This enables GBA to organize "in-house" project teams with the specialized experience uniquely suited for each project.

With an experienced multi-disciplined staff, GBA provides clients with a wide range of project types and design capabilities including

- Sustainable design
- Architecture and programming
- Planning and urban design
- Civil/Site development
- Surveying
- Structural engineering
- Fleet maintenance facilities
- Industrial development
- Roadways and bridges
- Traffic analysis and engineering
- Stormwater management
- Lake and dam design and restoration
- Residential development
- Park and recreation facilities
- HVAC systems
- Energy studies
- Utility studies and systems
- Fire protection and life safety
- Hazardous waste management
- Water treatment and distribution
- Sewage collection and treatment
- Environmental studies
- Construction Management
- Commissioning

GBA has worked hard to establish and maintain a reputation for uncompromising quality, on-time project completion, and fair and reasonable fees.

Each project is considered in its entirety, within the boundaries specified by the client and with the comprehensive experience and expertise of the GBA staff. The result is an innovative, functional, and cost-effective design.

8. Disclaimer

The information in this study is presented in response to the agreement between George Butler Associates, Inc. (GBA) and the City of El Dorado Kansas dated March 29, 2010. The information presented herein is based on wind development best practices, commercially available information and virtual wind data provided by AWS Truewind, LLC. GBA makes no guarantees, expressed or implied, as to the actual outcome of the processes described in this report.

9. Appendix



► **N1000 1-MW TURBINES**

Light & Flexible Design

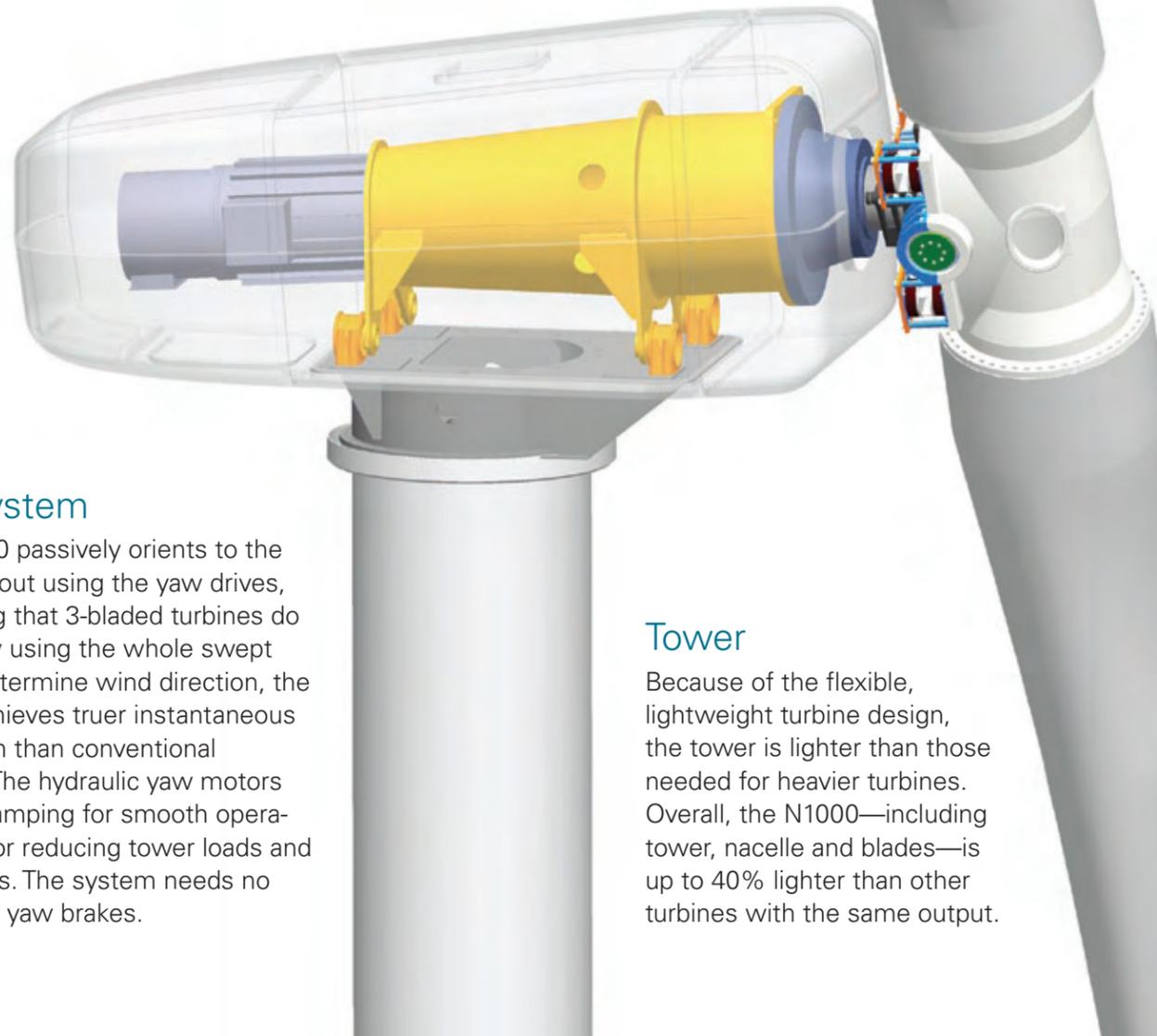
Greater Reliability

& Lower Cost

Gearbox and Drive train

A key component of turbine reliability is gearbox survivability. N1000 gearboxes show exceptionally low wear, even after many years of operation. Many design features reduce gearbox loading:

- The reduced hub weight reduces load on the drive train.
- The teeter-hub dissipates loads harmlessly before they reach the gearbox.
- The main drive-shaft bearings are integrated into the proprietary gearbox design for greater strength.
- An integrated cylindrical machinery housing locks the gearbox, drive shaft and generator into one lightweight, robust load-absorbing unit.



Yaw System

The N1000 passively orients to the wind without using the yaw drives, something that 3-bladed turbines do not do. By using the whole swept area to determine wind direction, the N1000 achieves truer instantaneous orientation than conventional turbines. The hydraulic yaw motors provide damping for smooth operation and for reducing tower loads and oscillations. The system needs no expensive yaw brakes.

Tower

Because of the flexible, lightweight turbine design, the tower is lighter than those needed for heavier turbines. Overall, the N1000—including tower, nacelle and blades—is up to 40% lighter than other turbines with the same output.

Simple light-weight design:

Low capital cost

Demonstrated reliability:

Easy, inexpensive maintenance

Reduced weight & crane time, ground-based assembly:

Inexpensive installation

Low drive train loading:

Exceptionally high reliability

DNV certification, strong track record:

Lender & investor acceptance

Blades

A two-blade system minimizes loads and costs. Two blades allow the use of a damped teeter hub to dissipate wind loads on the gearbox and drive-train, virtually eliminating fatigue issues and providing significantly longer service life and trouble-free operation.

Because of reduced fatigue loading, the design can focus on extreme conditions. Stall control for limiting power in high wind reduces drive train loads and lowers system cost. For shutdown, unique tip brakes pivot the tip of the blade. And as an added safety feature, the hydraulic system activates passively.

Principle Ideas of Design

The N1000 1-MW turbine implements a lighter, simpler design than traditional wind turbines, providing a lower overall cost of energy and greater reliability.

In traditional turbine design, the amount of construction material is proportional to the anticipated wind loads. The N1000's revolutionary "flexible design" evens out the impact of turbulence and wind shear without adding material and weight. This patented design approach is based on precise calculations of the eigenfrequency oscillations of the entire system and configures the turbine so that high component loads never occur.

The result is a turbine that is both lighter and more reliable. In fact, Nordic's turbines have performed at 98% reliability, with no major component failures, for up to ten years. They have provided more than 100,000 hours of trouble-free operation in normal and extreme wind conditions.

Easy to Install & Service

The two-blade design greatly simplifies construction. Unlike three-blade turbines, the two blades are attached before lifting the nacelle. In addition, ground assembly is much

safer, faster, and easier to QA. And with the rotor attached, the nacelle can be lifted at higher wind speeds, reducing weather delays.

Reduced component complexity and a roomy nacelle interior (.8-meter wide passage around the machinery) make service and maintenance much easier.



N1000 Technical Data

GENERAL

Nominal power	1,000 kW
Rated wind speed	16 m/s
Operational range	4-25 m/s, 4-22 m/s
Extreme wind speed	55 m/s (standard)
Control principle	Stall

WIND TURBINE

Turbine diameter	54 m, 59 m
Orientation	Upwind
Rotational speed	25 rpm, 1.5 rpm
Blade tip speed	71 m/s, 66 m/s
Blade material	GRP / Carbon
Type of hub	Teeter
Teeter bearing	Elastomeric
Maximum teeter	±2°

GENERATOR - 600V & NEMA 3 are options

Type of generator	4-pole induction
Rating	1,000 kW
Voltage	600 V / 690 V
Protection	NEMA3 / IP54
Cooling	Liquid (glycol-water)
Power factor	0.98 at 100% power

BRAKING SYSTEM

Air brake	Turnable blade tips
Activation/deactivation	Centrifugal force/hydraulics
Mechanical brake	Disc brake with two calipers
Activation/deactivation	Springs/hydraulic pressure

GEARBOX

Type	2 planetary & 1 stage helical, integrated turbine bearings
Gear ratio	1:87
Cooling	Heat exchanger

YAW SYSTEM

Type of bearing	Rolling bearing
Drive	Hydraulic motors with planetary gearboxes

TOWER

Type	Welded steel tube, painted
Hub height	70 m standard
Diameter top/bottom	1.9/3.0 m

CONTROL SYSTEM

Distributed control system
IEC 61131-3 compliant turbine controller
SCADA system



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tel: +1 510 665 9463 fax: +1 510 665 9466

US assembly plant:

Building 36, 669 W. Quinn Road, Pocatello, ID 83201

UK technology office:

2430 The Quadrant, Azrec West, Almondsbury,
Bristol, BS32 4AQ, United Kingdom

Registered office:

100 New Bridge Street,
London EC4V 6JA, United Kingdom

email: info@nordicwindpower.com

www.nordicwindpower.com

Nordic N1000 (60Hz)- Data Sheet

N1000 Technical Data	59 m rotor
GENERAL	
Nominal power	1000 kW
Rated wind speed	16 m/s
Operational range	4-22 m/s
Certification	DNV Design to IEC Class IIIb
Extreme wind speed	52.5 m/s
Operational Temperature Range	-10° - +40° Celsius
Survival Temperature Range	-20° - +50° Celsius
Control principle	Stall
WIND TURBINE	
Rotor diameter	59 m
Number of blades	2
Rotor orientation	Upwind
Rotational speed	23 rpm
Blade tip speed	72 m/s
Blade material	GRP/Carbon
Type of hub	Teeter
Teeter bearing	Elastomeric
BRAKING SYSTEMS	
Aerodynamic blade tip brakes	
Hydraulic disc brake on rotor shaft	
GEARBOX	
Type	2 planetary & 1 stage helical, integrated turbine bearings
Gear ratio	1:81
Cooling	heat exchanger
GENERATOR	
Rating	1,000 kW
Type of generator	4-pole induction
Voltage	690 V
Environmental Protection	NEMA3/IP34
Cooling	Air
Power factor	0.98 at 100% power
YAW SYSTEM	
Hydraulic drive motors	
TOWER	
Hub height	70 m
Diameter top/bottom	1.9/3.2 m
Type	Welded steel tube, painted
Number of tower sections	2
Tower weight	60 tonnes
CONTROL SYSTEM	
Distributed control system	
IEC 61131-3 compliant turbine controller	
SCADA system	
WEIGHTS	
Nacelle, with hub	44 tonnes
Blades (each)	4.2 tonnes
NOISE LEVEL	
Less than 104 dB(A) at 8 m/sec	
IEC 61400-11 compliant	

Nordic Windpower USA
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 Berkeley, CA 94710, USA
 tel: +1 510 665 9463
 www.nordicwindpower.com





INDICATIVE PROPOSAL
FOR
SUPPLY OF WIND TURBINES
TO

George Butler Associates, Inc

PROJECT:

El Dorado KS WWTP

Nordic Windpower USA Inc (hereinafter called "Nordic") is pleased to submit an indicative proposal to you (hereinafter called "Customer") to supply *Nordic N1000* wind turbines, including nacelles, blades, and towers, for projects under development by Customer (hereinafter called the "Projects"). Other equipment, field assembly, and other site related services may be offered separately.

This proposal is provided to you on a confidential basis, and you agree to hold it in confidence along with all trade secrets and proprietary information to which you may have become privy to as a result of this proposal or any relationship with Nordic in response to this proposal. We thank you for your trust in Nordic and if you have any questions or comments, please contact me. We look forward to working with you to complete a successful project.

1. Scope of Delivery

- N1000 Class IIIb 1000 kW Wind Turbines nacelle
- 59 meter rotor blade diameter.
- 70 meter hub height tower.
- Supervision for installation and commissioning, training for erection and operation.
- The Equipment includes lightning protection, DNV certification, and CE certification of the electrical equipment.
- Two year parts and labor warranty subject to entering into a two year maintenance and service program.

Items not included in the Scope of Supply by Nordic:

- Power grid and communications connections.
- Generator pad-mount transformer package.
- Civil site work including but not limited to modifications of/or to roads, bridges, driveways, parking lots, pads, footings and foundations.
- Tower foundation and anchoring system including bolts.
- Installation & Erection. Nordic to provide consultation and instruction.
- Cranes, common assembly tools and site preparation equipment.
- Erection personnel.
- Soils survey, federal, state and local permits and approvals.
- Uninterruptible power supplier for turbine controller for extended grid outages.
- Recommended spare parts inventory.
- Cold Weather Package is not included.

2. Terms of delivery

EXW US factories for Nacelle and Tower. FOB USA port of entry for blades. Estimated delivery costs to site are \$65,000 to \$75,000.

3. Price*

Model:	N1000-59
Tower:	70m
1-9 units:	\$1,330,000 each

***Conditions**

Prices are valid for orders placed by June 31, 2010. Lead time is expected to be 6-9 Months from Order Reservation Payment receipt.

4. Payment

The following are our proposed payment terms for this project:

- 10% upon Order reservation. Execution of Turbine Supply Agreement within 45 days.
- 15% of total is to be paid to Nordic, and combined with the above Order Reservation payment, and becomes a non-refundable Down Payment upon

execution of the Turbine Supply Agreement. Buyer and Nordic to mutually agreed on the form of payment security from the Buyer for the balance of the contract value, and performance security from Nordic at the time the Down Payment is made.

- 25% progress payment 6 months before scheduled delivery.
- 25% progress payment 3 months before scheduled delivery.
- 15% upon delivery EXW Pocatello ID for nacelles and FOB USA port towers, and India port for rotor blades (“delivery points”).
- 10% of total to be paid, upon Commissioning on a per WTG basis, but in no event later than 60 days after the wind turbine equipment has arrived at the project site, but no more than 90 days from the delivery points.

5. Schedule

Delivery will vary depending upon project specifics. Currently, Nordic expects a 6 - 11 month lead time.

6. Warranty and Service Care Options

Nordic provides a full parts and labor equipment warranty for two (2) years from acceptance and options for up to five (5) years. Service Care options are also available ranging from full O&M services to customer managed O&M. Nordic proposes the following Service Care Options below. See your account manager for other Service Care Program offerings.

WTG Units per Project Site	Years 1 & 2 Total Care Program ¹ With Warranty	Years 3 to 5 Basic Care Program ² w/o Warranty
1- 5 units:	\$20,000 per WTG/Year	\$17,500 per WTG/Year
6 -9 units:	\$17,500 per WTG/Yea	\$15,000 per WTG/Yea

¹Total Care Program by Nordic provides a repaired or new replacement component parts, transport to deliver part to site, and labor to remove and install as a result of an unplanned failure, including crane expense if/as needed – and the services provided in the Basic Care Program below.

²Basic Care Program includes all scheduled inspections, adjustments, lube & filter changes, consumable part replacements. Customer pays for unplanned part replacements and repairs resulting from failures.

The warranty and service period shall and will commence at the date of commissioning of the wind turbine, but in no event at any date later than 60 days after

the wind turbine has arrived at the project site. Warranty is only valid if service and maintenance of turbine is performed by Nordic. Service and maintenance fees are paid quarterly in advance, and are subject to annual inflation at the Consumer Price Index.

The service terms must be agreed upon and entered into at the time of executing the Turbine Sales Agreement. The cost of the service package may be adjusted based on the estimated production at the site, the turbulence in the wind resource, the size of the wind farm and other site specific issues. Pricing assumes a Nordic standard Warranty and Service Agreement. All Service and Maintenance prices are indexed to the consumer price index and do not include sales taxes.

7. Guarantees

- 95% Power Curve Performance
- 95% Availability Guarantee

This is Nordic's standard 95% availability guarantee as measured by wind turbine controller for years 1 and 2 during the warranty period. Guaranteed availability is 90% in the first six (6) months. These guarantees apply to project size of a minimum of three (3) wind turbines. Guarantees can be extended for up to five (5) years depending on the Service Care Options selected.

Respectfully submitted,

Phillip Dickinson
Director of Sales & Marketing
Nordic Windpower USA Inc.
650-504-9887 (cell)
pdickinson@nordicwindpower.com

CONTACTS:

Nordic Windpower USA Inc.

US office: 125 University Avenue, Second Floor, Berkeley CA 94710 USA
tel: +1 510 665 9460 US toll-free: 888 322 2080 fax: +1 510 665 9463

www.nordicwindpower.com

Proposed case power system

Technology: Wind turbine

Analysis type: Method 1, Method 2, Method 3

Resource assessment

Resource method: Wind speed Show data [See maps](#)

Location: EI Dorado

Wind speed - annual	m/s	7.0	5.0
Measured at	m	55.0	10.0
Wind shear exponent		0.14	
Air temperature - annual	°C	13.0	13.0
Atmospheric pressure - annual	kPa	97.6	97.6

Wind turbine

Power capacity per turbine	kW	1,000.0	
Manufacturer		Nordic	
Model		N1000	
Number of turbines		1	
Power capacity	kW	1,000.0	202.3%
Hub height	m	70.0	7.2 m/s
Rotor diameter per turbine	m	59	
Swept area per turbine	m²	2,734	
Energy curve data		Custom	
Shape factor		2.6	

Show data

Wind speed	Power curve data	Energy curve data
m/s	kW	MWh
0	0.0	
1	0.0	
2	0.0	
3	0.0	115.3
4	12.0	436.5
5	67.0	970.7
6	128.0	1,665.4
7	223.0	2,445.2
8	334.0	3,241.7
9	460.0	4,006.0
10	577.0	4,709.1
11	688.0	5,337.1
12	784.0	5,885.1
13	867.0	6,351.1
14	937.0	6,731.7
15	986.0	7,022.3
16	1,021.0	
17	1,050.0	
18	1,072.0	
19	1,087.0	
20	1,092.0	
21	1,096.0	
22	1,090.0	
23	1,090.0	
24	1,090.0	
25 - 30	1,090.0	

[Show figure](#)

Array losses	%	0.0%
Airfoil losses	%	0.0%
Miscellaneous losses	%	0.0%
Availability	%	95.0%

Summary

Capacity factor	%	27.7%
Electricity delivered to load	MWh	2,257
Electricity exported to grid	MWh	174
Electricity rate - base case	\$/MWh	58.59
Fuel rate - proposed case power system	\$/MWh	0.00
Electricity export rate	\$/MWh	28.00
Electricity rate - proposed case	\$/MWh	28.00

Show data

Unadjusted energy production	MWh	2,637
Pressure coefficient		0.963
Temperature coefficient		1.007
Gross energy production	MWh	2,558
Losses coefficient		0.95
Specific yield	kWh/m²	889

Operating strategy	Electricity delivered to load	Electricity exported to grid	Remaining electricity required	Power system fuel	Operating profit (loss)	Efficiency
	MWh	MWh	MWh	MWh	\$	%
Full power capacity output	2,257	174	76	0	139,390	-
Power load following	2,257	0	76	0	134,528	-

Select operating strategy: Full power capacity output

RETScreen Load & Network Design - Power project

Power project		Unit																										
Base case power system																												
Grid type	Central-grid & internal load																											
Base case load characteristics																												
	Power gross average load																											
Month	kW																											
January	309																											
February	289																											
March	256																											
April	272																											
May	261																											
June	281																											
July	263																											
August	232																											
September	246																											
October	230																											
November	219																											
December	293																											
System peak electricity load over max monthly average	60.0%																											
Peak load - annual	494																											
Electricity	MWh	2,332																										
Electricity rate - base case	\$/kWh	0.052																										
Total electricity cost	\$	120,346																										
Base case system load characteristics graph																												
<table border="1"> <caption>Base case system load characteristics graph data</caption> <thead> <tr> <th>Month</th> <th>Power (kW)</th> </tr> </thead> <tbody> <tr><td>Jan</td><td>309</td></tr> <tr><td>Feb</td><td>289</td></tr> <tr><td>Mar</td><td>256</td></tr> <tr><td>Apr</td><td>272</td></tr> <tr><td>May</td><td>261</td></tr> <tr><td>Jun</td><td>281</td></tr> <tr><td>Jul</td><td>263</td></tr> <tr><td>Aug</td><td>232</td></tr> <tr><td>Sep</td><td>246</td></tr> <tr><td>Oct</td><td>230</td></tr> <tr><td>Nov</td><td>219</td></tr> <tr><td>Dec</td><td>293</td></tr> </tbody> </table>			Month	Power (kW)	Jan	309	Feb	289	Mar	256	Apr	272	May	261	Jun	281	Jul	263	Aug	232	Sep	246	Oct	230	Nov	219	Dec	293
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Proposed case energy efficiency measures																												
End-use energy efficiency measures	%																											
Net peak electricity load	kW	494																										
Net electricity	MWh	2,332																										
Proposed case load and energy																												
System peak load	kW	494																										
System energy	MWh	2,332																										



SOUTH

Company Name: City of El Dorado -- 105 W Wetlands Dr
 Account Number: 2526367502

Generation Substitution Service

Bill Date	KWH	Demand	Power Factor	PF Demand	Load Factor	Energy Charge	Fuel Charge	Property Tax	Transmission	EPA	Customer Charge	Total
January	230,100	445	90.00%	445	69.50%	\$8,204.00	\$3,381.14	-\$50.62	\$1,183.86	\$184.31	\$40.00	\$12,942.69
February	194,100	495	90.00%	495	54.46%	\$7,123.89	\$2,852.14	-\$42.70	\$998.64	\$155.47	\$40.00	\$11,127.45
March	190,500	416	90.00%	416	63.60%	\$6,873.02	\$2,799.25	-\$41.91	\$980.12	\$152.59	\$40.00	\$10,803.07
April	195,900	431	90.00%	431	63.13%	\$7,073.31	\$2,878.59	-\$43.10	\$1,007.91	\$156.92	\$40.00	\$11,113.62
May	194,100	395	90.00%	395	66.05%	\$6,953.82	\$2,852.14	-\$42.70	\$998.64	\$155.47	\$40.00	\$10,957.38
June	202,500	401	90.00%	401	70.14%	\$7,235.89	\$2,975.58	-\$44.55	\$1,041.86	\$162.20	\$40.00	\$11,410.98
July	195,900	377	90.00%	377	69.84%	\$6,981.47	\$2,878.59	-\$43.10	\$1,007.91	\$156.92	\$40.00	\$11,021.78
August	167,100	381	90.00%	381	58.95%	\$6,056.16	\$2,455.40	-\$36.76	\$859.73	\$133.85	\$40.00	\$9,508.37
September	183,300	386	90.00%	386	65.95%	\$6,588.97	\$2,693.45	-\$40.33	\$943.08	\$146.82	\$40.00	\$10,372.00
October	171,000	360	90.00%	360	63.84%	\$6,146.67	\$2,512.71	-\$37.62	\$879.80	\$136.97	\$40.00	\$9,678.52
November	157,500	371	90.00%	371	58.96%	\$5,728.45	\$2,314.34	-\$34.65	\$810.34	\$126.16	\$40.00	\$8,984.63
December	218,100	425	90.00%	425	71.27%	\$7,781.60	\$3,204.81	-\$47.98	\$1,122.12	\$174.70	\$40.00	\$12,275.25
Monthly Average	191,675	407	90.00%	407	64.64%	\$6,895.60	\$2,816.51	-\$42.17	\$986.17	\$153.53	\$40.00	\$10,849.65
Total	2,300,100					\$82,747.25	\$33,798.13	-\$508.02	\$11,834.01	\$1,842.38	\$480.00	\$130,195.76
											Avg. kWh	0.0566

Generation Substitution Service - New Rates

Bill Date	KWH	Demand	Power Factor	PF Demand	Load Factor	Energy Charge	Fuel Charge	Property Tax	Transmission	EPA	Customer Charge	Total
January	230,100	445	90.00%	445	69.50%	\$7,612.38	\$4,220.97	-\$86.75	\$1,255.43	\$399.91	\$40.00	\$13,441.94
February	194,100	495	90.00%	495	54.46%	\$6,638.86	\$3,560.58	-\$73.18	\$1,059.01	\$337.35	\$40.00	\$11,562.63
March	190,500	416	90.00%	416	63.60%	\$6,386.80	\$3,494.54	-\$71.82	\$1,039.37	\$331.09	\$40.00	\$11,221.98
April	195,900	431	90.00%	431	63.13%	\$6,575.73	\$3,593.60	-\$73.85	\$1,068.83	\$340.47	\$40.00	\$11,544.78
May	194,100	395	90.00%	395	66.05%	\$6,457.06	\$3,560.58	-\$73.18	\$1,059.01	\$337.35	\$40.00	\$11,380.83
June	202,500	401	90.00%	401	70.14%	\$6,716.34	\$3,714.67	-\$76.34	\$1,104.84	\$351.95	\$40.00	\$11,851.45
July	195,900	377	90.00%	377	69.84%	\$6,477.56	\$3,593.60	-\$73.85	\$1,068.83	\$340.47	\$40.00	\$11,446.61
August	167,100	381	90.00%	381	58.95%	\$5,633.30	\$3,065.29	-\$63.00	\$911.70	\$290.42	\$40.00	\$9,877.72
September	183,300	386	90.00%	386	65.95%	\$6,121.38	\$3,362.47	-\$69.10	\$1,000.08	\$318.58	\$40.00	\$10,773.40
October	171,000	360	90.00%	360	63.84%	\$5,710.44	\$3,136.83	-\$64.47	\$932.98	\$297.20	\$40.00	\$10,052.98
November	157,500	371	90.00%	371	58.96%	\$5,331.28	\$2,889.19	-\$59.38	\$859.32	\$273.74	\$40.00	\$9,334.15
December	218,100	425	90.00%	425	71.27%	\$7,221.21	\$4,000.84	-\$82.22	\$1,189.95	\$379.06	\$40.00	\$12,748.84
Monthly Average	191,675	407	90.00%	407	64.64%	\$6,407.03	\$3,516.10	-\$72.26	\$1,045.78	\$333.13	\$40.00	\$11,269.78
Total	2,300,100					\$76,884.35	\$42,193.17	-\$867.14	\$12,549.35	\$3,997.57	\$480.00	\$135,237.30
											Avg. kWh	0.0588

Spreadsheet uses an average fuel charge.

Percentage Increase: 3.87%



P.O. Box 758500
Topeka, KS 66675-8500
1-800-826-0026

Service Address
105 W WETLANDS DR
EL DORADO, KS 67042

Web ID 345522377

Statement Date 02/01/2010
Account Number 2526367502
Invoice Number 78342 / 10

Rate Schedule GSS - S

Contract Capacity 100

CITY OF EL DORADO
PO BOX 792
EL DORADO, KS 67042-0792

Deposit None

Meter Information

Meter Number	Service Period		Days	Meter Reading		UOM	Multiplier	Units Used
	From	To		Previous	Present			
06675789	12-13-2009	01-15-2010	33	20838	21655	KWH	300	245,100
K6675789	12-13-2009	01-15-2010	33	8701	9006	KVARH	300	91,500

Billing Determinants

Billing Determinant	UOM	Billing Determinant Value	Date & Time
Actual On-Peak Demand	KW	427	01/08/2010 04:45 PM
Actual Off-Peak Demand	KW	426	01/12/2010 09:00 AM
Billing Capacity	KW	427	
Power Factor	PF	0.937	
Energy	KWH	245,100	

Billing Charges

Product Item Name	Quantity	UOM	Unit Price	Proration Factor	Extended Price
Customer Charge					\$40.00
First 70 kWh per kW	29,890	KWH	at \$0.043703	=	\$1,306.28
Next 160 kWh per kW	68,320	KWH	at \$0.038034	=	\$2,598.48
Additional kWh	146,890	KWH	at \$0.032365	=	\$4,754.09
Fuel Charge	245,100	KWH	at \$0.010089	=	\$2,472.81
Property Tax Surcharge	245,100	KWH	at \$0.000122	=	\$29.90
Transmission Delivery Charge	245,100	KWH	at \$0.005145	=	\$1,261.04
Environmental Charge	245,100	KWH	at \$0.000801	=	\$196.33
Franchise Fee			Exempt 00.0%		\$632.95
State Sales Tax			Exempt 100.0%		\$0.00
County Sales Tax			Exempt 100.0%		\$0.00
City Sales Tax			Exempt 100.0%		\$0.00
Total Current Charges					\$13,291.88
Amount Due By February 17, 2010					\$13,291.88

Attachment D-4: Shadow Flicker Analysis Report

CITY OF EL DORADO WIND POWER PROJECT SHADOW-FLICKER TECHNICAL MEMORANDUM

Prepared for:
City of El Dorado
220 East First
El Dorado, KS 6703

October 7, 2010



City of El Dorado Wind Power Project – Shadow-Flicker Technical Memorandum

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City of El Dorado Wind Power Project – Shadow-Flicker Technical Memorandum

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1.0 INTRODUCTION

The City of El Dorado, Kansas is proposing to install a single wind-powered turbine generator (turbine) at the El Dorado Wetlands and Water Reclamation facility (see Figure 1). A Nordic N1000 turbine with an electric generation capacity of 1.0 megawatts (MW) is being proposed and therefore was used to complete this analysis. The City of El Dorado Wind Power Project (hereafter referred to as the “Project”) will provide the City with a stable, renewable source of power and lower utility bills.

To address the potential impacts of shadow-flicker, Saratoga Associates, Landscape Architects, Architects, Engineers, and Planners, P.C. (Saratoga Associates) was retained to model the potential shadow-flicker of the proposed wind turbine.

2.0 BACKGROUND

Wind turbines can cause a flickering effect when shadows created by rotating turbine blades move across the ground and nearby structures. This can cause a disturbance within structures (hereafter referred to as “receptors”) when the repeating pattern of light intensity change falls across the windows of buildings. The effect, known as shadow-flicker, is most conspicuous when windows face a rotating wind turbine and when the sun is low in the sky (e.g. shortly after sunrise or shortly before sunset).

Evidence from operational turbines suggests that the intensity of shadow-flicker is only an issue at short distances. It is generally accepted that shadow-flicker will have a minimal to unperceivable affect on properties at a distance greater than ten turbine rotor diameters¹ from the turbine. Shadow-flicker will only occur when certain conditions coincide:

- > Daylight hours (sunrise to sunset) – shadow-flicker does not occur at night;
- > Sunshine – shadow-flicker will not occur on foggy or overcast days when daylight is not sufficiently bright to cast shadows;
- > Receptor is within ten rotor diameters of the turbine – beyond this distance a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it.²
- > Windows face the turbine – turbine shadows can enter a structure through unshaded windows; and
- > Turbine is rotating – no flicker will occur when the turbine is not in operation.

Because of constantly changing solar aspect and azimuth, shadows will be cast on specific days of the year and may pass a stationary receptor relatively quickly. Shadow-flicker will not be an everyday event or be of extended duration when it does occur. Additionally, shadow-flicker is most likely to occur during early morning or late afternoon hours, thus specific receptors may experience shadow-

¹ *Planning for Renewable Energy - A Companion Guide to PPS22 Queen's Printer and Controller of Her Majesty's Stationery Office 2004*

² http://webarchive.nationalarchives.gov.uk/tna/+http://www.dti.gov.uk/renewables/renew_3.5.1.4.htm/ (Website last accessed on August 17, 2010)

flicker, but the occupants of the receptor may either be inactive or absent. For example, receptors such as residential dwellings located to the west of a turbine, are more likely to fall within the shadow zone shortly after sunrise when affected residents are typically asleep with shades drawn. Receptors located to the east of a turbine are more likely to fall within the shadow zone shortly before sunset. In this case, receptors such as schools or office buildings are likely to be unoccupied during this time.

When the rotor plane is in-line with the sun and receptor (as seen from the receptor), the cast shadows will be very narrow (Image 1), of low intensity, and will move quickly past the stationary receptor. When the rotor plane is perpendicular to the sun-receptor “view line,” the cast shadow of the blades will move within a larger elliptical area (Image 2).

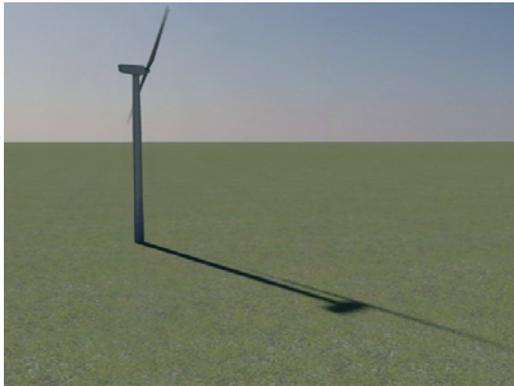
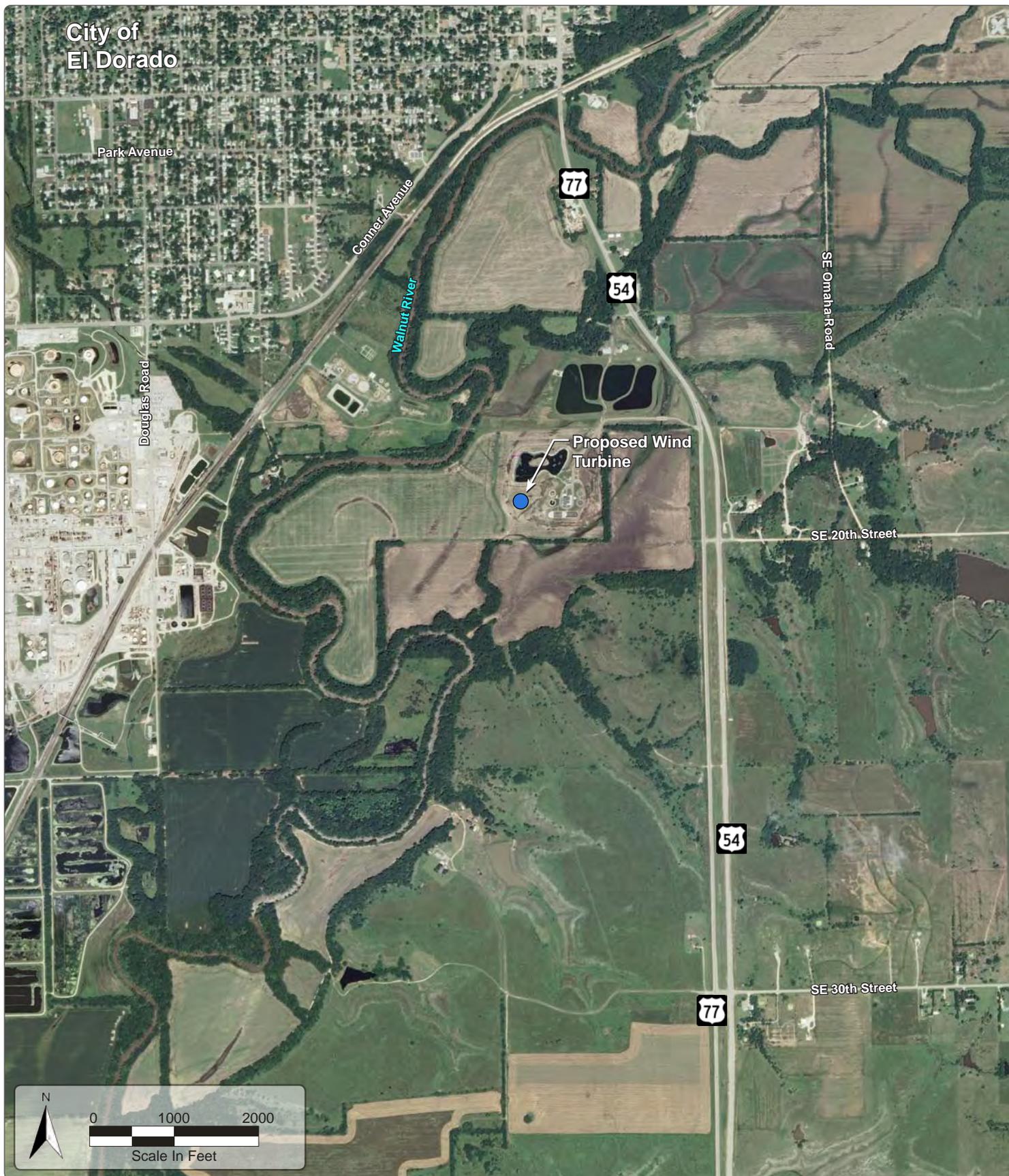


Image 1 - Aligned Rotor Plane



Image 2 - Perpendicular Rotor Plane

The distance between a wind turbine and a receptor affects the intensity of the shadows cast by the blades, and therefore the intensity of flickering. Shadows cast close to a turbine will be more intense, distinct and “focused.” This is because a greater proportion of the sun’s disc is intermittently blocked. Similarly, flickering is more intense if created by the area of a blade closer to the rotor and further from the tip. Beyond ten turbine diameters the intensity of the blade shadow is considered negligible and at such a distance there will be virtually no, or limited, distinct chopping of the sunlight.



SARATOGA
ASSOCIATES

Landscape Architects, Architects,
Engineers, and Planners, P.C.
New York City > Saratoga Springs > Syracuse

Figure 1

Site Location Map
City of El Dorado Wind Power Project

October, 2010

2.1 SHADOW-FLICKER METHODOLOGY

The Projects shadow-flicker analysis was conducted using *WindPRO 2.6 Basis* software (WindPro) and associated shadow module. This is a widely accepted modeling software package developed specifically for the design and evaluation of wind power projects. Variables used for shadow calculations include:

- > Terrain – The terrain within the Project area was developed using a digital elevation model (DEM) obtained through the United States Geological Survey in 1/3 arc second resolution (approximately 10 Meters). This data was interpolated and exported at 0.25-meter interval contours for use in WindPro.
- > Latitude and Longitude – WindPro considers the azimuth and altitude of the sun in relation to the proposed turbine. For this analysis, the Project coordinates were specified by using Universal Transverse Mercator coordinate system (UTM) North American Datum (NAD) 83 Zone 14 (reflecting the appropriate zone in this region of Kansas).
- > Turbine Dimensions and Blade Rotation Speed – For the shadow-flicker analysis, the turbine was modeled using dimensions of the Nordic N1000 turbine. That is, the analysis assumed a hub height of 70 meters (230 feet) and a rotor diameter of 59 meters (194 feet). The frequency of flickering is directly related to the rotor speed and number of blades on the rotor. The shadow-flicker analysis assumed a two-bladed wind turbine rotating at 25 revolutions per minute (RPM), which is the operating speed of the Nordic N1000 turbine.
- > Receptor Locations – Locations of structures, within the Project area, was provided by URS. These locations were first derived from interpretation of aerial photographs and then field verified to determine type and occupancy status. The location of each receptor is shown in Figure 2. The shadow analysis was conducted for all receptors located within 1,000 meters (3,281 feet) radius of the proposed turbine, a distance that is longer than the ten rotor diameters (590 m or 1,936 ft for the N1000 turbine) generally considered to be the limit of shadow impact. There are eight locations identified as receptors in this analysis.
- > Receptor Windows – WindPro has the capability to identify where windows are located in each receptor, so that shadow-flicker hours are only calculated when shadows are cast in the direction in which the window faces. For this analysis, it was conservatively assumed that every receptor had windows in all directions. WindPro refers to this as the “Green house” mode.
- > Sunshine probabilities (percentage of time from sunrise to sunset with sunshine) – The WindPro model calculates shadow frequency based on monthly sunshine probabilities. The following sunshine probabilities were used for this analysis and are based on 55 years of historic meteorological data for the City of Wichita.³

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
58%	61%	62%	64%	64%	69%	76%	75%	68%	64%	58%	57%

³ <http://www.ncdc.noaa.gov/oa/climate/online/ccd/pctpos.txt> (data for Wichita, Kansas) (Website last accessed on September 30, 2010)

- > Screening from Vegetation and Structures – Trees and structures will block shadows from the proposed wind turbine. Results from the WindPro model assume that the area lacks vegetation and structures. This assumption is considered conservative, as shadows will not occur in areas where the turbine is not visible due to the screening effects of vegetation and structures.
- > Operational Time/Rotor Orientation –The WindPro model was given the number of hours per year that the turbine might be operating for every wind direction identified below. The total hours in the table below are 8,760 hours/year, or approximately 100% of the hours in one calendar year. Moreover, the orientation of the rotor (determined by wind direction) affects the size of a shadow cast area. To more accurately calculate the amount of time a shadow will be over a specific location (based on rotor orientation), the WindPro model considers typical wind direction. These hours are used to determine average annual shadow hours for the year. The following operational time (hours per year [hrs/yr]) of wind direction is based on information obtained through windNavigator (*El Dorado Wind Turbine Feasibility Study*, April 23, 2010 by GBA Architects and Engineers).⁴

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW
534	432	395	382	414	470	652	1,097	1,350	772	355	237	246	354	501	569

Using the variables identified above, WindPro was used to calculate the theoretical number of hours per year the shadow of a rotor would fall at any given location within the 1,000-meter radius of the turbine. Hours for each receptor do not take into account activities within the receptor (i.e. rooms of primary use or enjoyment versus less frequently occupied rooms) or account for the direction/location of windows. Figure 2, illustrates the geographic area of the shadow impact using the following increments:

- > 0-2 hrs/yr;
- > 2-10 hrs/yr;
- > 10-20 hrs/yr;
- > 20-30 hrs/yr;
- > 30-40 hrs/yr; and
- > 40+ hrs/yr.

Vegetation is not considered in this analysis due to the lack of substantial forest vegetation (typically large lot forest canopy is required for vegetation consideration due to the coarse resolution of the land cover data). However, it is anticipated that where vegetation and structures screen the view of the turbine from a receptor, then it should also be substantially screened from turbine shadows.

⁴ Wind resource estimates are based on AWS Truwind’s proprietary atmospheric modeling systems.

2.2 SHADOW-FLICKER ANALYSIS

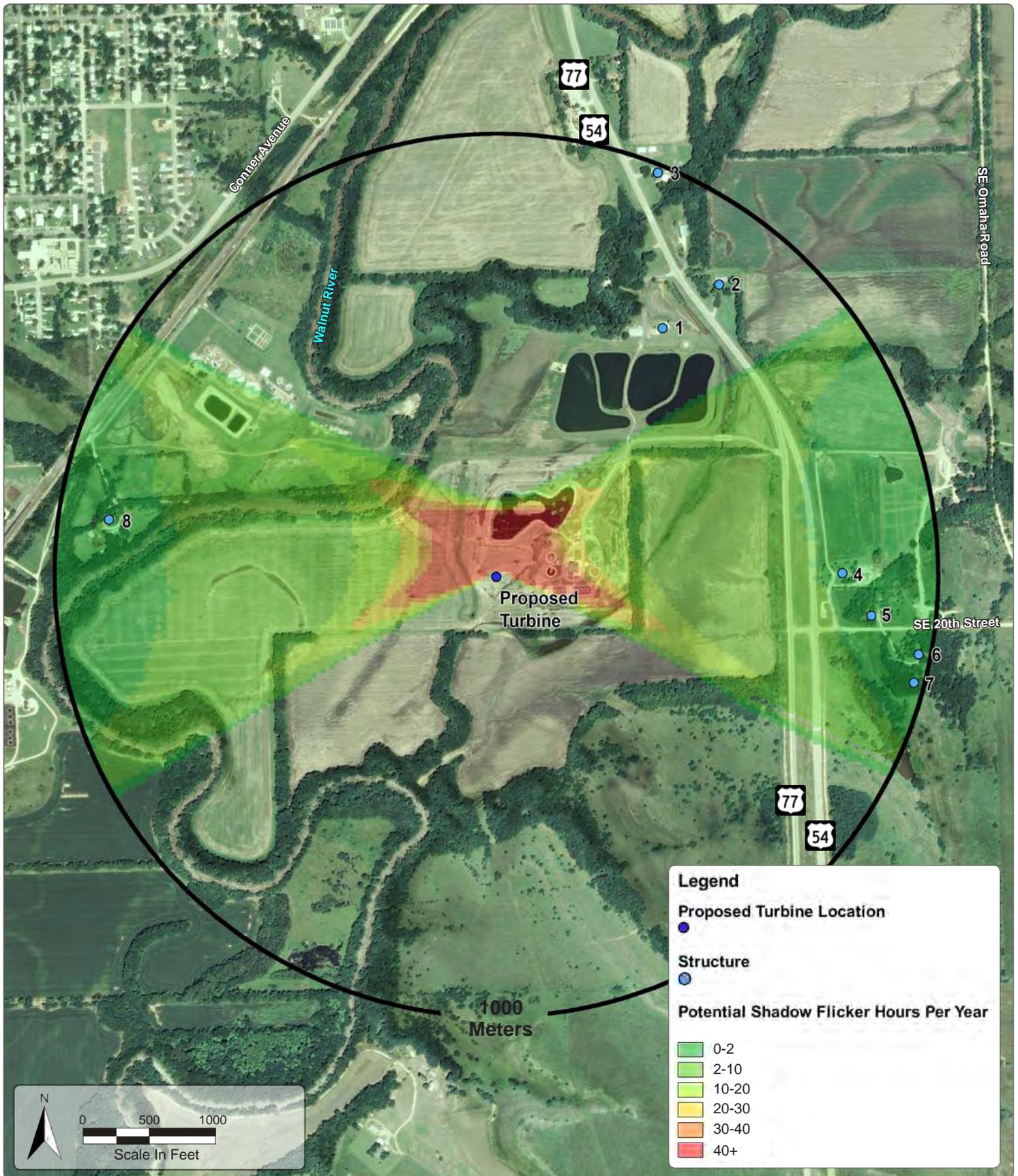
Each of the eight structures within a 1,000-meter radius of the proposed turbine was evaluated to determine potential shadow-flicker impact. Table 1 summarizes the number of hours per year and day each inventoried receptor would theoretically fall within the shadow zone of the proposed turbine. The location of each inventoried receptor is included in Figure 2.

Table 1 – Shadow-Flicker Summary

Map ID	Maximum Potential Shadow Hours Anticipated per Year⁵	Maximum Potential Shadow Hours per Day⁶	Structure Use?	Distance to Turbine in Meters
1	0:00	0:00	Residential	675
2	0:00	0:00	Residential	828
3	0:00	0:00	Residential	982
4	1:42	0:17	Residential	780
5	1:15	0:13	Residential	848
6	0:44	0:09	Residential	968
7	0:56	0:10	Residential	970
8	1:21	0:15	Residential	882

⁵ Hours based on topography only.

⁶ Hours based on topography only.



SARATOGA ASSOCIATES

Landscape Architects, Architects, Engineers, and Planners, P.C.

New York City > Saratoga Springs > Syracuse

This map is computer generated using data acquired by Saratoga Associates from various sources and is intended only for reference, conceptual planning and presentation purposes. This map is not intended for and should not be used to establish boundaries, property lines, location of objects or to provide any other information typically needed for construction or any other purpose when engineered plans or land surveys are required.

PROJECT # 2010-045
Copyright © 2010 Saratoga Associates. All Rights Reserved.
El Dorado WWTP Wind Project

Figure 2

Shadow-Flicker Analysis Topography Only

City of El Dorado Wind Power Project

October, 2010

3.0 SUMMARY

Of the eight identified structures, no receptors are expected to experience greater than 30 hours of shadow-flicker per year. For those receptors east of the proposed turbine (receptors 4, 5, 6, and 7) shadow-flicker may be experienced in evening hours, with the greatest chance to occur sometime during the months of April, May, August, September, and October. For receptor 8, which is west of the proposed turbine, it is anticipated that shadow-flicker may occur in the early morning hours during the months of March, September, and October. Shadow-flicker will not occur every day during these months listed. Rather, shadow-flicker is only expected on select days for short duration (i.e. structure 4 has the greatest daily potential, a maximum of 17 minutes on select days during the months described above). In addition to low exposure to shadow-flicker, analysis of aerial photographs suggests that many of the structures within the 1,000-meter study area are surrounded by relatively dense deciduous vegetation. This vegetation will likely reduce potential shadow exposure, if not eliminate it completely.

Based on the low number of potential hours that may affect those receptors identified above, it is anticipated that the Project will operate successfully without significant issues from shadow-flicker. However, if occupants are exposed to prolonged shadow-flicker and consider it an annoyance, mitigation may be applied. Potential mitigation options include window shades, awnings and/or strategically placed vegetation. Potential mitigation should be evaluated on a case-by-case basis.

Attachment D-5: Floodplain and Wetlands Assessment Report

DOE/EA-1833D

Floodplain and Wetlands Assessment for
Installation of a Wind Turbine at
El Dorado Wetlands and Water Reclamation Facility
City of El Dorado, Kansas

October 27, 2010

Prepared by
URS Corporation
8300 College Blvd., Suite 200
Overland Park, Kansas 66210

Prepared for the U.S. Department of Energy
Office of Environmental Management

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1.0 INTRODUCTION

This floodplain/wetland assessment has been prepared in accordance with 10 *Code of Federal Regulations (CFR) 1022*, “Compliance with Floodplain/Wetlands Environmental Review Requirements” which were promulgated to implement the requirements of the U.S. Department of Energy’s (DOE’s) responsibilities under Executive Order 11988, *Floodplain Management*, and Executive Order 11990, *Wetlands Protection*. These regulations and Executive Orders encourage measures to preserve and enhance the natural and beneficial functions of floodplains and wetlands. It also requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and the occupancy and modification of floodplains. Direct and indirect support of floodplain development and the direct and indirect support of new construction in wetlands are to be avoided whenever there is a practicable alternative.

According to 10 CFR 1022, a floodplain is defined as the lowlands adjoining inland and coastal waters and relatively flat areas and flood prone areas of offshore islands, including, at a minimum, that area inundated by a 1% or greater chance flood in any given year (the “100-year floodplain”). Per 10 CFR 1022, a wetland is defined as an area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, and similar areas.

As reflected on the *El Dorado Wetlands and Water Reclamation Facility Wind Turbine Project – Project Location Map* (see Figure 1), this assessment evaluates the potential effects to floodplains and wetlands associated with the installation of a wind turbine at the El Dorado Wetlands and Water Reclamation Facility in Butler County, El Dorado, Kansas.

The proposed wind turbine would be located on the City of El Dorado’s Wetlands and Water Reclamation Facility property, in El Dorado, Kansas approximately 0.7 miles south of El Dorado on US-77. Two potential sites for wind turbine placement were evaluated during preliminary site assessment; however only the west site (Site 1) is considered the preferred and proposed alternative (see Figure 2). A detailed discussion of the two sites evaluated is provided in section 4.3 of this document.

In accordance with the 15-day public comment requirement per 10 CFR 1022, DOE sent scoping letters to potentially interested local, state and Federal agencies on September 13, 2010. Those receiving the scoping letter include: the Office of the Governor of Kansas, Kansas State Historical Preservation Office, Kansas Water Office, Kansas Department of Transportation, Kansas Department of Wildlife and Parks, Kansas Department of Agriculture, Kansas Department of Health and Environment, Kansas Department of Commerce, the Federal Aviation Administration, Bureau of Land Management Planning and NEPA Division, US Environmental Protection Agency, U.S. Army Corps of

Engineers, USDA Natural Resources Conservation Service, U.S. Fish and Wildlife Service, Kansas Chapter of Nature Conservancy, National Audubon Society and area tribal affiliations including the Kaw Nation, Osage Nation, Prairie Band of the Potawatomi, Kickapoo Tribe, Sac Fox Tribe, and the Wichita and affiliated tribes. DOE also sent scoping letters to other potentially interested individuals and organizations to solicit public comment, and published the Scoping Letter on the City of El Dorado website (<http://www.eldoks.com>) and the DOE internet site (http://www.eere.energy.gov/golden/reading_room.aspx).

The scoping letter described the Proposed Action and requested assistance in identifying potential issues to be evaluated in the EA. The Public Comment period closed on September 27, 2010. In response to the scoping letters, DOE did not receive comments from individuals, or organizations; however, comments were received from the FAA and the USEPA. The comments received from the FAA were advisory in nature, and noted that applicable permits must be filed with the FAA. The USEPA had no specific comments regarding the project; however, they did provide suggestions regarding developing the project's purpose and need.

2.0 FLOODPLAIN AND WETLAND DESCRIPTION IN THE PROJECT AREA

2.1 DESCRIPTION OF FLOODPLAINS

In the vicinity of the proposed project, the 100-year floodplain is approximately 0.5 miles wide with a majority of the width existing east of the Walnut River. The west bank of the Walnut River rises moderately with the City of El Dorado occupying the higher elevations. Further downstream, the eastern bank of the Walnut River rises sharply to a bluff resulting in the floodplain switching to the west bank of the Walnut River. Agricultural cropland exists throughout the majority of the Walnut River 100-year Floodplain. The western Site 1 for the proposed wind turbine tower lies within the designated floodway of the Walnut River and the eastern Site 2 remains in the 100-year floodplain (see Figure 3).

2.2 DESCRIPTION OF WETLANDS

Pursuant to 10 CFR Part 1022, DOE reviewed the Federal Emergency Management Agency (FEMA) Flood Rate Insurance Map (FIRM) (See Figure 3) and the USFWS National Wetlands Inventory (NWI) map (See Figure 4). The FIRM shows the proposed wind turbine tower Site 1 within the regulatory floodway of the Walnut River (see Figure 3). The regulatory floodway is defined as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height

According to the USFWS NWI Map, there are no jurisdictional wetlands located in the immediate proximity of the proposed wind turbine tower Site 1; however, constructed wetlands and a stream are located adjacent to Site 2 (see Figure 4). Although no wetlands are identified in the project area on the NWI map, aerial photography shows a

channel entering the northeast section of the site at US-77 and flowing southwest across the site to the Walnut River. Constructed wetlands are located in the northern section of the site and a pond associated with the wastewater treatment plant is located northwest of the Wetlands and Water Reclamation Facility.

3.0 PROJECT DESCRIPTION AND ALTERNATIVES

The range of alternatives discussed in this assessment is limited to the proposed alternative and the no action alternative. During preliminary site evaluations, two alternative sites for the wind turbine tower were assessed; however, Site 2 was dismissed due its proximity to nearby roadways, residential receptors and its potential impact on the constructed wetlands. The alternatives are described in Section 4.3.

3.1 PROPOSED ACTION PROJECT DESCRIPTION

The proposed wind turbine would be located on the City of El Dorado's 13.7 acre Wetlands and Water Reclamation Facility property in El Dorado, Kansas approximately 0.7 miles south of El Dorado on US-77. The physical address of the El Dorado Wetlands and Water Reclamation Facility is 105 Wetlands Drive in El Dorado, Kansas. The approximate center point of the turbine is located at Latitude /Longitude 37°47'48.46" N, 96°51'6.45"W [North American Datum (NAD) 1983]. See Project Location Map provided as Figure 1.

This project would be specifically located on a portion of the property that has been previously disturbed (cropped), and owned by the City of El Dorado. The proposed site is not only located in the 100-year floodplain, but also lies within the regulatory floodway of the Walnut River. The ground disturbing activities for this project would be confined to less than a one acre portion of the property that is currently being leased and cropped with soybeans. Construction activities associated with the installation of the turbine tower (mono pole) and subsequent trenching efforts to accommodate underground electrical service would involve work within the 100-year floodplain. The existing elevations and flow paths of the area within the floodplain of the Walnut River are not expected to change with any significance. The nature and extent of the flood hazard caused by the proposed action is not expected to change from the present conditions.

4.0 ANTICIPATED IMPACTS OF THE PROPOSED ACTION TO FLOODPLAINS AND WETLANDS

No long-term negative direct or indirect impacts to the beneficial values of the 100-year floodplain of Walnut River or the constructed wetlands would be expected under the proposed action. No effects to lives and property associated with floodplain disturbance

are anticipated. The survival, quality and function of the wetlands would be unchanged. Construction of short duration, with implementation of sediment and erosion controls, would enhance the survivability of potential wetlands located down slope of the proposed site.

Short-term direct impacts to the floodplain would result from the temporary disturbance of the area during excavation and trenching activities associated with the construction of the wind turbine tower and/or the installation of electrical service connecting the tower to the Wetlands and Water Reclamation Facility. Additionally, the possibility of sediment run-off or erosion could occur as a result of a storm during the construction/installation period. The erosion has the potential to result in a temporary localized reduction in the water quality of the Walnut River. However, sediment and erosion controls such as silt fencing and silt dikes would prevent disturbance to adjacent areas of the floodplain and would protect the Walnut River from the influx of silt contained in runoff. Spill control measures would be utilized when necessary and spill control kits would be readily available for use at all field locations where heavy equipment would be utilized. After excavation, trenching, and installation activities are completed, the affected floodplain areas would be graded, seeded, and restored to their previous condition.

A positive impact would be that the construction of the wind turbine would offset the electrical demand of the El Dorado Wetlands and Water Reclamation Facility.

4.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, conditions would remain unchanged and operations at the El Dorado Wetlands and Water Reclamation Plant would continue as otherwise planned but without the use and benefit of the proposed wind turbine and its generated energy. Without the use and benefit of the wind generated energy, the plant would not reduce its reliance on commercially generated energy sources nor reduce its carbon foot print.

4.2 ANTICIPATED IMPACTS OF THE NO ACTION ALTERNATIVE TO FLOODPLAINS AND WETLANDS

Under the No Action Alternative, conditions would remain unchanged and the wind turbine would not be installed. No expected change to the floodplain would be anticipated beyond those that would occur naturally. Wetland hydrology would also remain unchanged. No impacts to the constructed wetlands would be expected beyond those that are naturally occurring.

4.3 ALTERNATIVES EVALUATED

As noted in the introduction of this document, two alternative locations were evaluated for wind turbine placement at the El Dorado Wetlands and Water Reclamation Facility. See Project Location on Aerial Photograph provided as Figure 2. Site selection considered existing stream channel located in the northeast corner of the property,

floodplains and constructed wetlands as well as avoidance of areas which may impact wildlife. In addition, existing utilities and infrastructure, fall clearance zones, visual receptors, flicker impacts and potential noise receptors were also considered. By maximizing the use of existing, developed areas, and minimizing impacts to stream channels, floodplains, constructed wetlands and wildlife, the proposed site (Site 1) was selected.

Alternative 1 – West Location (Preferred and Proposed)

The west location is located approximately 400 feet west of the existing Wetlands and Water Reclamation Facility in an agricultural crop field. Review of the FEMA Flood Insurance Rate Map (FIRM) of the area, shows that this site lies within the floodway boundaries of the Walnut River. This site presents an area with sufficient clearance from nearby overhead transmission lines, existing structures and existing wetland features. The nearest residential structure is located approximately 2,200 feet to the northwest. The Nordic 1000 wind turbine would be constructed with a setback of at least 250 feet from existing transmission lines, as well as 360 feet or greater from lightly used roads and property lines. Site disturbance would be limited to no greater than 1 acre.

Installation of the turbine at the west site would likely require a relocation of an existing Westar revenue meter to upstream of the wind turbine and Wetlands and Water Reclamation Facility connection. The existing underground primary cables would be tapped with a new pad-mounted switchgear near the wind turbine location, and a new transformer dedicated to the wind turbine would be installed. This would require transfer of all underground primary cables and the transformer downstream of the new meter location from Westar to the City. Road modifications may be necessary for delivery of the tower sections based on turning radius on the approach leading to the site and/or facility.

Based on a variety of geotechnical conditions, bearing capacity of the soils, depth and quality of bedrock, and other factors, a variety of foundation design approaches can be used for this project. In most instances, a “spread foot foundation” (steel-reinforced concrete footer) has proven to be safe, appropriate, and effective for wind turbine installations similar to this proposed project. The foundation type and design of the turbine would be determined after a geotechnical investigation has been performed. Since the west location lies in the floodplain of the Walnut River, it is anticipated that due to possibly weak soil quality some type of sub grade modifications may be needed if a spread footing type foundation is used. Another option is the use of a deep foundation in which piles or drilled shafts are driven/drilled into the ground and filled with reinforced concrete. A No-Rise Certificate would need to be obtained as this site is in the floodway.

Alternative 2 – East Location

The east location is adjacent to US-77 in an open area on the north side of Wetlands Drive near entrance to the property. The site is bounded by US-77 to the east, Wetland Drive to the south, and a drainage way (ditch) running along the north and west sides of the site. A series of constructed wetlands (treatment ponds) are located immediately west of the proposed site. This site lies within Zone AE of the Special Flood Hazard Area Subject to the 1 percent Annual Chance Flood, more commonly known as the 100-year floodplain of the Walnut River.

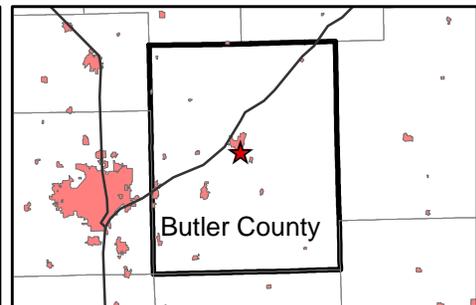
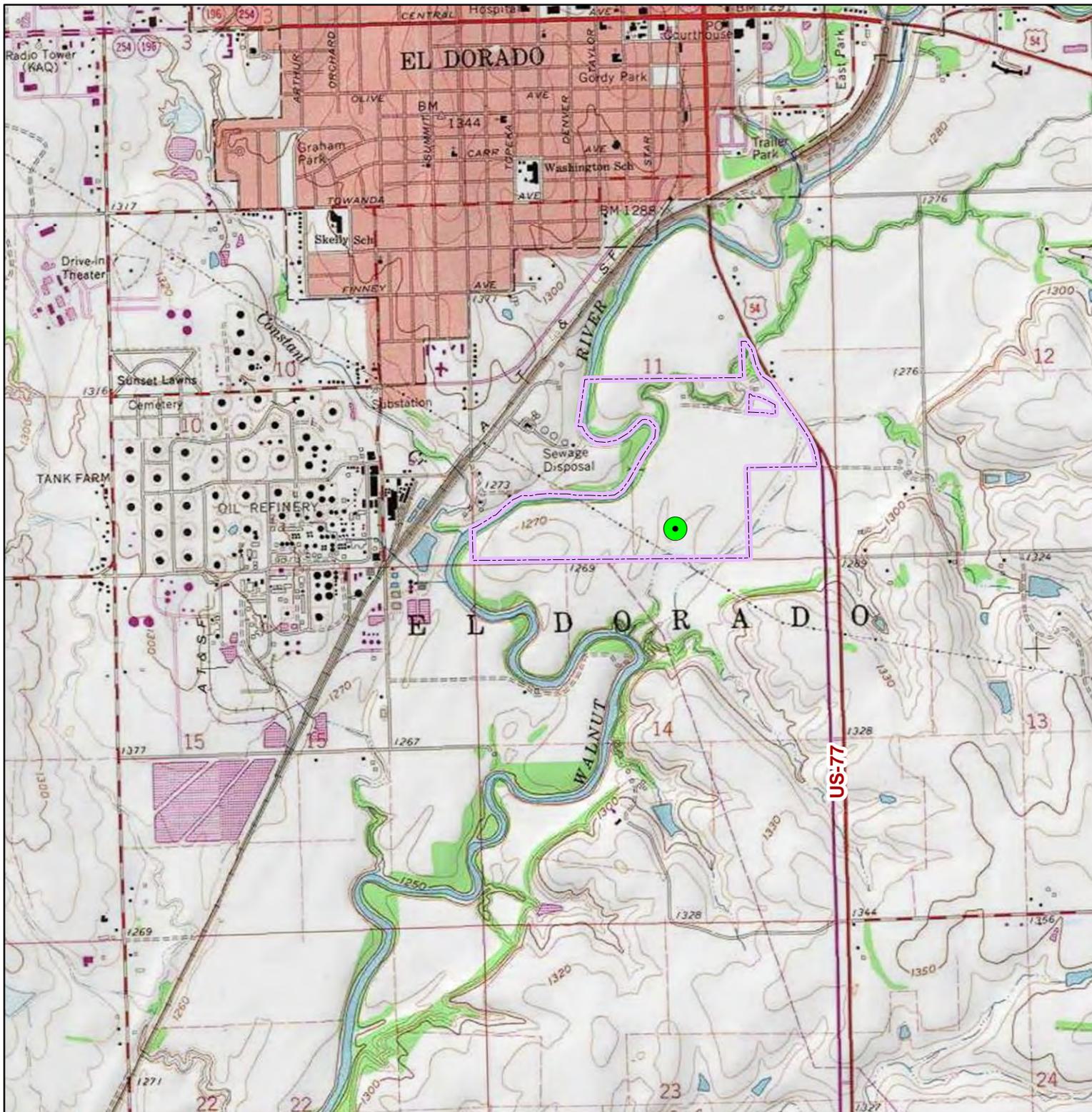
To accommodate the necessary fall clearance of the proposed tower from the entrance road and US-77, the placement of the tower at this site would be limited to a small area adjacent to one of the constructed wetlands. After considering necessary clearance requirements for the turbine tower, impacts on visual and noise receptors, and the potential negative impacts to wildlife that utilizes the constructed wetlands, Alternative 2-East Location was dismissed as a potential location for the wind turbine tower.

5.0 CONCLUSIONS

The proposed action is not expected to result in adverse impacts to the Walnut River 100-year floodplain associated with the Walnut River or impact the constructed wetlands located on the property. Temporary disturbance within the floodplain would cease following completion of construction and excavating/trenching activities associated with the proposed action. Any temporary disturbance would require erosion and sediment controls during construction. Site restoration would follow.

In accordance with Title CFR Part 1022, a Statement of Findings based on the information in this document would be published. The statement of findings would include a brief description of the proposed action and an explanation indicating why it is in the floodplain, the alternatives considered, a statement indicating if the action conforms to State and local floodplain requirements and a brief description of the steps to be taken to minimize potential harm within the floodplain. The project would require the preparation of a No-Rise certificate to be reviewed and approved by the Assistant City Engineer of the City of El Dorado in accordance with FEMA regulations.

After publication, a 15-day comment period is required before implementing the proposed action.



Legend

- Proposed Turbine Site
- Property Boundary

0 1,000 2,000 Feet

1 in = 2,000 feet



El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 1 Project Location on USGS Map

El Dorado, Kansas USGS Quadrangle

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- - - - - Proposed Access Road
- ~~~~~ Streams
- Proposed Turbine Site
- Property Boundary

0 250 500 Feet

1 in = 500 feet



El Dorado Wetlands and
Water Reclamation Facility

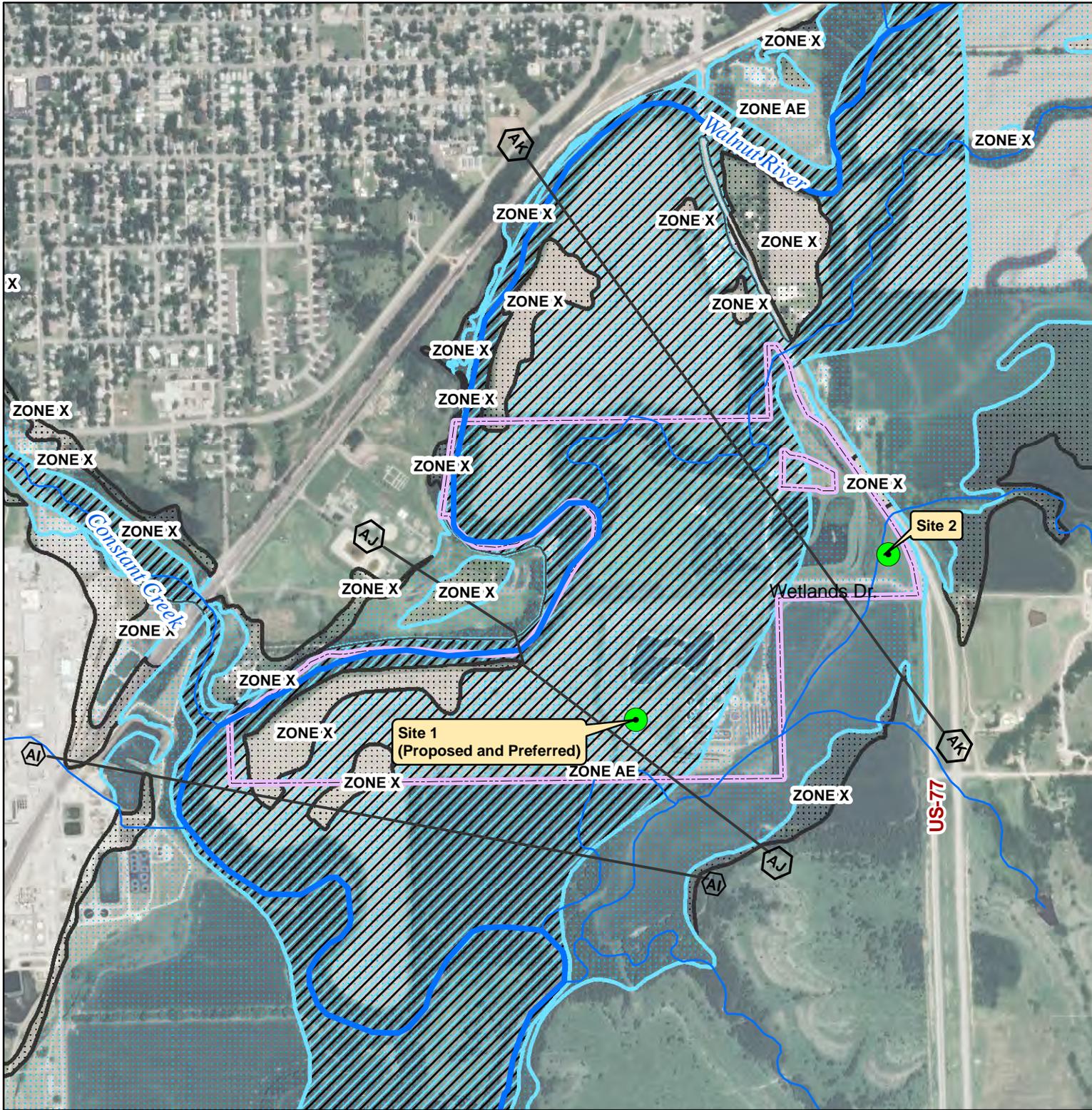
Wind Energy Project

FIGURE 2 Project Location on Aerial Photograph

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

- Proposed Turbine Site
- Streams
- Property Boundary
- ZONE X (500-yr. Flood)
- ZONE AE (100-yr. Flood)
- FLOODWAY
- FEMA Cross Sections

0 500 1,000 Feet

1 in = 1,000 feet



El Dorado Wetlands and
Water Reclamation Facility

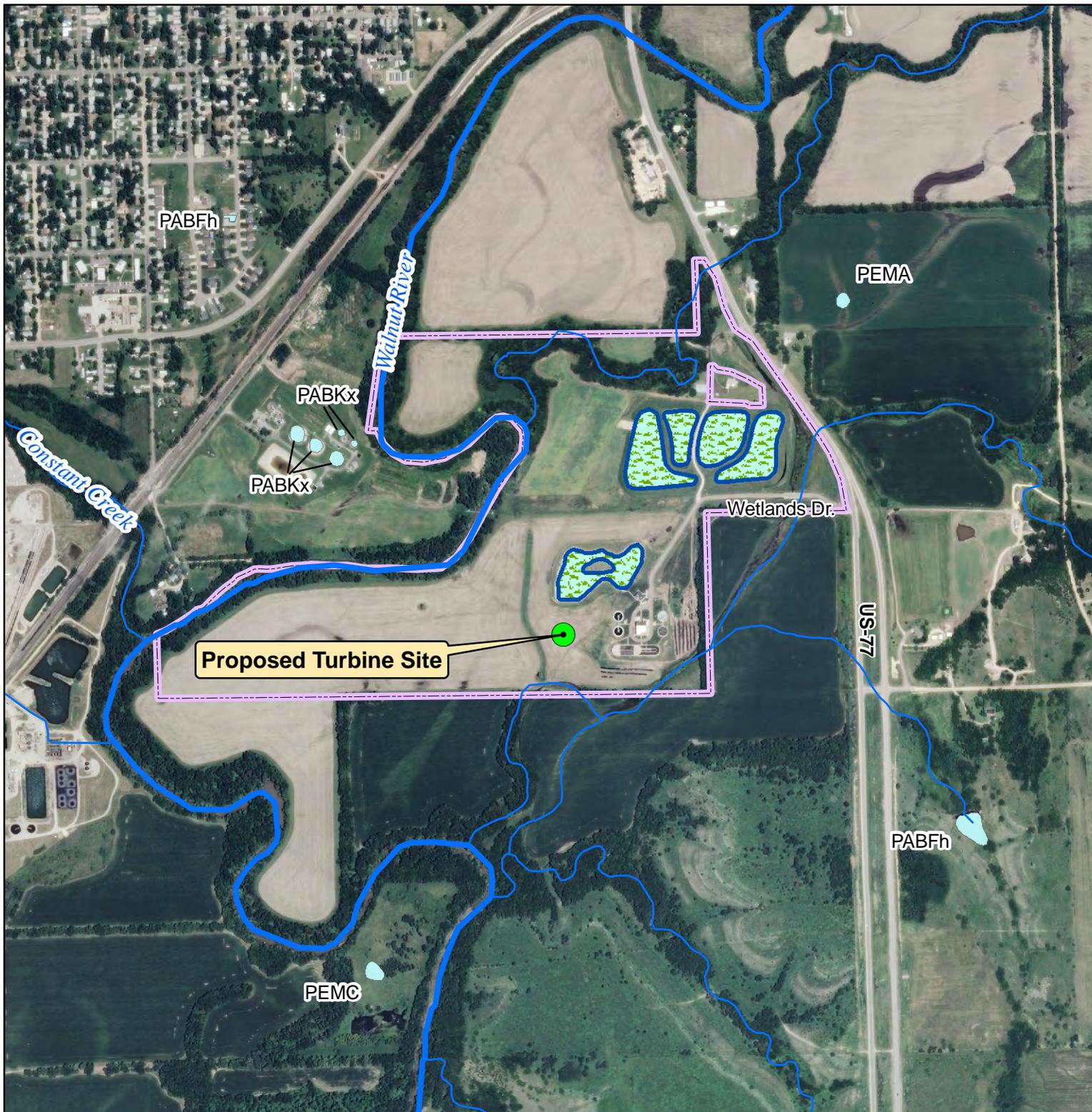
Wind Energy Project

FIGURE 3 Project Location on FEMA FIRM Map

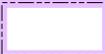
2010 National Agriculture Imagery Program
(NAIP) Aerial Photography



8300 College Boulevard, Suite 200
Overland Park, KS 66210



Legend

-  Streams
-  Proposed Turbine Site
-  Property Boundary
-  Constructed Wetland
-  Wetlands

0 500 1,000 Feet

1 in = 1,000 feet



El Dorado Wetlands and
Water Reclamation Facility

Wind Energy Project

FIGURE 4 Project Location on USFWS NWI Map

2010 National Agriculture Imagery Program
(NAIP) Aerial Photography

URS

8300 College Boulevard, Suite 200
Overland Park, KS 66210

**Attachment D-6: Archeological Survey of the Proposed El Dorado
Wastewater Treatment Plant**

The June 8, 2005 report by Wichita State University titled, *Archeological Survey of the Proposed El Dorado Wastewater Treatment Plant Butler County, Kansas*, is on file with the Department of Energy. If access to this report is desired, please contact the NEPA Document Manager identified on the Cover Sheet of this EA.

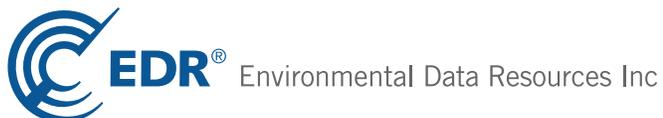
Attachment D-7: EDR Reports

El Dorado Wind Tower

105 Wetlands Drive
El Dorado, KS 67042

Inquiry Number: 2870159.2s
September 15, 2010

The EDR Radius Map™ Report with GeoCheck®



440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

105 WETLANDS DRIVE
EL DORADO, KS 67042

COORDINATES

Latitude (North): 37.796790 - 37° 47' 48.4"
Longitude (West): 96.851790 - 96° 51' 6.4"
Universal Transverse Mercator: Zone 14
UTM X (Meters): 689142.2
UTM Y (Meters): 4185237.2
Elevation: 1271 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 37096-G7 EL DORADO, KS
Most Recent Revision: 1979

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 2005, 2006, 2008
Source: USDA

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 7 of the attached EDR Radius Map report:

<u>Site</u>	<u>Database(s)</u>	<u>EPA ID</u>
CITY OF EL DORADO 105 W. WETLANDS RD. EL DORADO, KS 67042	FINDS	N/A
CITY OF EL DORADO 105 W. WETLANDS RD. EL DORADO, KS 67042	SWF/LF	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State and tribal leaking storage tank lists

LUST..... Leaking Underground Storage Tank Data
LAST..... Leaking Aboveground Storage Tanks
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST..... Underground Storage Tank Data

EXECUTIVE SUMMARY

AST..... Aboveground Storage Tank Data
INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

INST CONTROL..... Institutional Controls Information

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing
VCP..... Identified Sites List

State and tribal Brownfields sites

BROWNFIELDS..... Identified Sites List

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI..... Open Dump Inventory
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
AOCONCERN..... Area of Concern
CDL..... Clandestine Laboratory Data
US HIST CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information
LUCIS..... Land Use Control Information System

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... Kansas Spills Database

Other Ascertainable Records

RCRA-NonGen..... RCRA - Non Generators
DOT OPS..... Incident and Accident Data
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision

EXECUTIVE SUMMARY

UMTRA.....	Uranium Mill Tailings Sites
MINES.....	Mines Master Index File
TRIS.....	Toxic Chemical Release Inventory System
TSCA.....	Toxic Substances Control Act
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
SSTS.....	Section 7 Tracking Systems
ICIS.....	Integrated Compliance Information System
PADS.....	PCB Activity Database System
MLTS.....	Material Licensing Tracking System
RADINFO.....	Radiation Information Database
RAATS.....	RCRA Administrative Action Tracking System
UIC.....	Underground Injection Wells Database Listing
DRYCLEANERS.....	Registered Drycleaning Facilities
TIER 2.....	Tier 2 Information Listing
INDIAN RESERV.....	Indian Reservations
SCRD DRYCLEANERS.....	State Coalition for Remediation of Drycleaners Listing
COAL ASH.....	Coal Ash Disposal Site Listing
PCB TRANSFORMER.....	PCB Transformer Registration Database
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
COAL ASH DOE.....	Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants..... EDR Proprietary Manufactured Gas Plants

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 03/25/2010 has revealed that there is 1

EXECUTIVE SUMMARY

CORRACTS site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
FRONTIER EL DORADO REFINING CO	1401 SOUTH DOUGLAS ROAD	WNW 1/2 - 1 (0.915 mi.)	5	13

State- and tribal - equivalent CERCLIS

SHWS: The State Hazardous Waste Sites records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. The data come from the Department of Health & Environment's list: Summary of Bureau of Environmental Remediation Sites in Kansas.

A review of the SHWS list, as provided by EDR, and dated 08/18/2010 has revealed that there are 4 SHWS sites within approximately 1 mile of the target property.

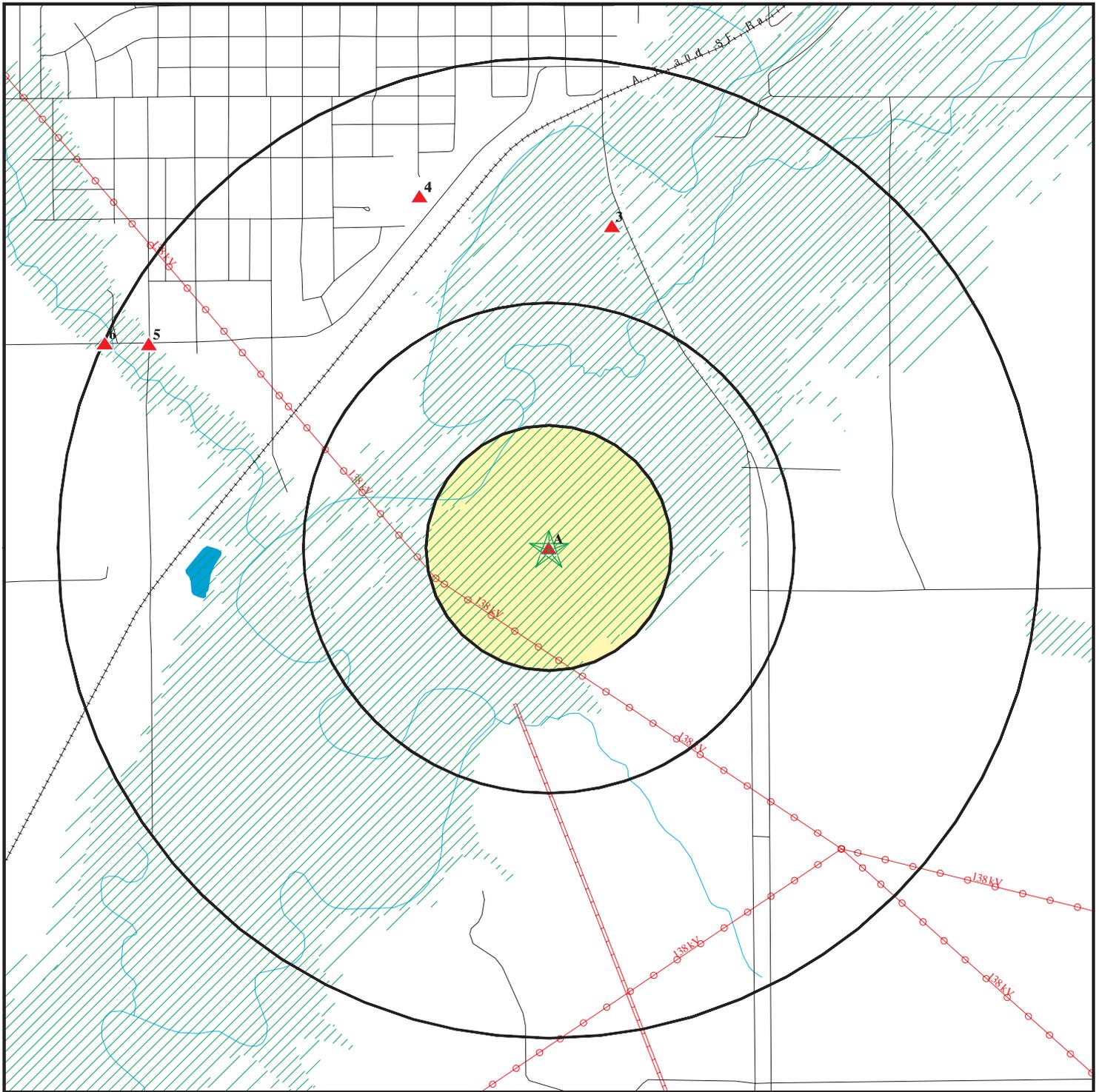
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
EL DORADO BIOSOLIDS Facility Status: Active	1257 SW HWY 77	N 1/2 - 1 (0.670 mi.)	3	7
FORMER ST. LOUIS OIL AND REFIN Facility Status: Resolved Facility Status: Resolved <i>*Additional key fields are available in the Map Findings section</i>	450 FT SOUTH OF SOUTH E	NNW 1/2 - 1 (0.765 mi.)	4	9
FRONTIER EL DORADO REFINING CO	1401 SOUTH DOUGLAS ROAD	WNW 1/2 - 1 (0.915 mi.)	5	13
Not reported Facility Status: Active	1414 SUNSET	WNW 1/2 - 1 (0.997 mi.)	6	39

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

<u>Site Name</u>	<u>Database(s)</u>
BRUCE OIL CO-EL DORADO REFINERY	TIER 2
REGIONAL ENERGY GROUP-EL DORADO	TIER 2
AJ'S TANK TRUCK SERVICE	SHWS, VCP
1 MILE N P ICKRELL CONER HWY54	CERCLIS, FINDS
RETREAT	LUST
INDUSTRIAL RD & 1ST BLK N 254	RCRA-NonGen, FINDS
TRACKSNEAR 6TH & HWY 77	RCRA-NonGen, FINDS
1416 SW DOUGLAS RD EL DORADO	ERNS
EL DORADO BUSINESS PARK #3	FINDS
EL DORADO INDUSTRIAL SITE #1	FINDS
EL DORADO THEATER	FINDS
REGIONAL ENERGY GROUP-EL DORADO	FINDS
EL DORADO INDUSTRIAL SITE #2	FINDS
BENCOR/EL DORADO L.P.	FINDS
EL DORADO MAINTENANCE AREA	FINDS
EL DORADO PROPANE TERMINAL	FINDS
EL DORADO INDUSTRIAL SITE #3	FINDS
EL DORADO INDUSTRIAL PARK SITE #7	FINDS
EL DORADO INDUSTRIAL PARK #6	FINDS
EL DORADO WEST INDUSTRIAL PARK BTA	FINDS
CAPTAIN JACK THOMAS/EL	FINDS
EL DORADO INDUSTRIAL PARK SITE #7	US BROWNFIELDS
EL DORADO WEST INDUSTRIAL PARK	US BROWNFIELDS

OVERVIEW MAP - 2870159.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

- Areas of Concern

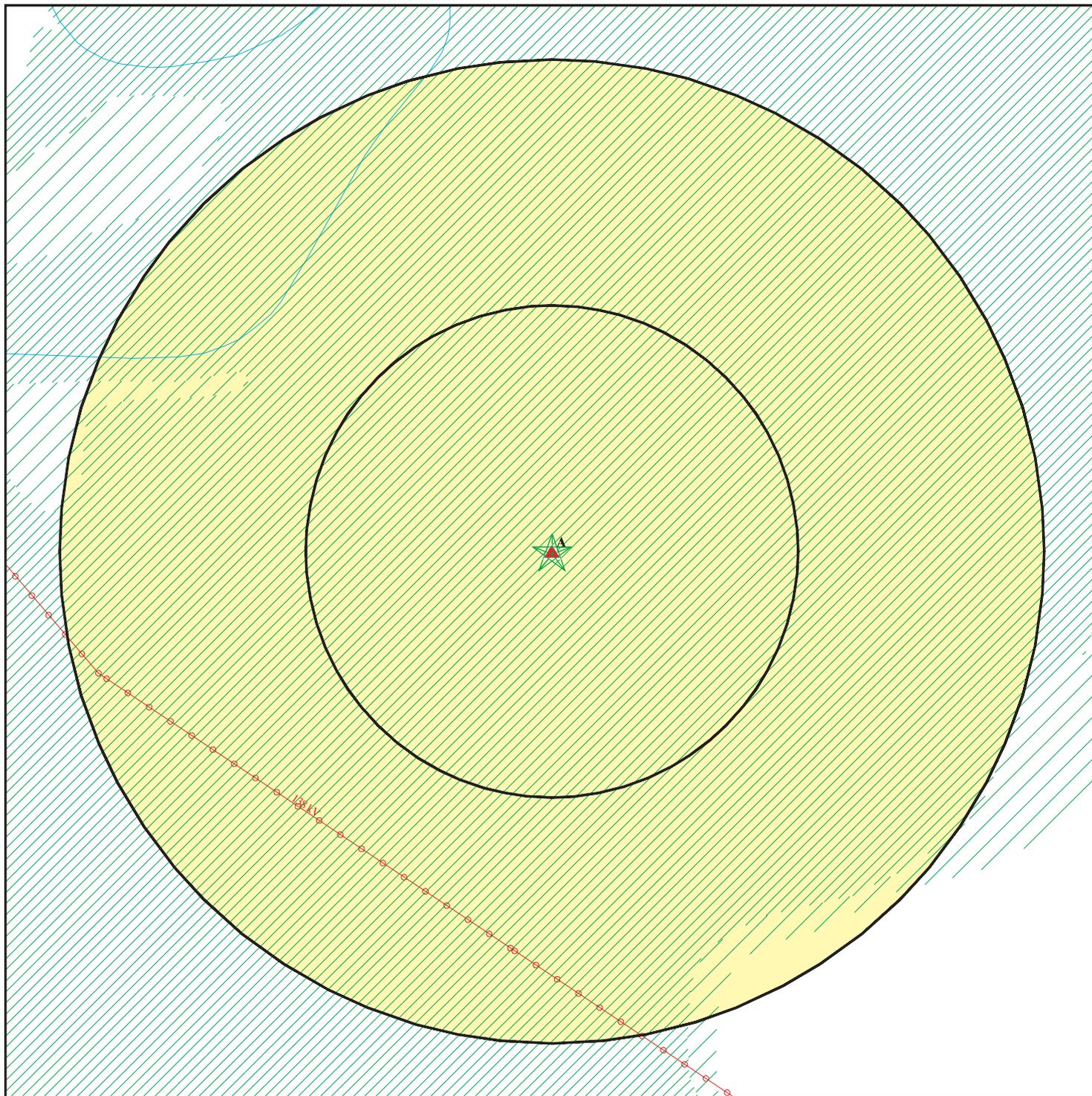


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

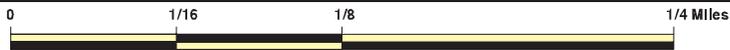
CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.2s
 DATE: September 15, 2010 5:20 pm

DETAIL MAP - 2870159.2s



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- Areas of Concern



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.2s
 DATE: September 15, 2010 5:21 pm

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
<u>STANDARD ENVIRONMENTAL RECORDS</u>								
<i>Federal NPL site list</i>								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL		1.000	0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
<i>Federal CERCLIS NFRAP site List</i>								
CERC-NFRAP		0.500	0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS		1.000	0	0	0	1	NR	1
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF		0.500	0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS		TP	NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS		1.000	0	0	0	4	NR	4
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	X	0.500	0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST		0.500	0	0	0	NR	NR	0
LAST		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST		0.250	0	0	NR	NR	NR	0
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
<i>State and tribal institutional control / engineering control registries</i>								
INST CONTROL		0.500	0	0	0	NR	NR	0
<i>State and tribal voluntary cleanup sites</i>								
INDIAN VCP		0.500	0	0	0	NR	NR	0
VCP		0.500	0	0	0	NR	NR	0
<i>State and tribal Brownfields sites</i>								
BROWNFIELDS		0.500	0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
<i>Local Brownfield lists</i>								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
<i>Local Lists of Landfill / Solid Waste Disposal Sites</i>								
ODI		0.500	0	0	0	NR	NR	0
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
<i>Local Lists of Hazardous waste / Contaminated Sites</i>								
US CDL		TP	NR	NR	NR	NR	NR	0
AOCONCERN		1.000	0	0	0	0	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
<i>Local Land Records</i>								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
<i>Records of Emergency Release Reports</i>								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
<i>Other Ascertainable Records</i>								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS	X	TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
UIC		TP	NR	NR	NR	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
TIER 2		TP	NR	NR	NR	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
COAL ASH		0.500	0	0	0	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000	0	0	0	0	NR	0
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID			EDR ID Number
Direction			EPA ID Number
Distance			
Elevation	Site	Database(s)	

A1	CITY OF EL DORADO	FINDS	1011932590
Target	105 W. WETLANDS RD.		N/A
Property	EL DORADO, KS 67042		

Site 1 of 2 in cluster A

Actual:
1271 ft.

FINDS:

Registry ID: 110037558336

Environmental Interest/Information System

KS-FP (Kansas - Facility Profiler) is a geographically-based data warehouse site that presents information about facilities and locations of interest to the KDHE. This site has in excess of twenty environmental interest which contains information on closed facilities, completed cleanups, and past operations as well as data on current operations and activities.

A2	CITY OF EL DORADO	SWF/LF	S109525220
Target	105 W. WETLANDS RD.		N/A
Property	EL DORADO, KS 67042		

Site 2 of 2 in cluster A

Actual:
1271 ft.

SWF/LF:

Permit Number:	Not reported
Owner Type:	City
Owner Name:	City of El Dorado
Facility Phone:	316-322-4981
Permit Type:	Composting
Contact Name:	Not reported
Mail Address:	Not reported
Mailing City,St,Zip:	Not reported
Telephone:	Not reported
Faxno:	Not reported
Issue Date:	Not reported
Fac Latitude:	Not reported
Fac Longitude:	Not reported
Facility Status:	Application under review

3	EL DORADO BIOSOLIDS	SHWS	S108194868
North	1257 SW HWY 77	BROWNFIELDS	N/A
1/2-1	EL DORADO, KS		

0.670 mi.
3535 ft.

Relative:
Higher

SHWS:

Site ID:	2147
Has Env Use Control:	No
Project code:	C200872205
PM Name:	RAWLS, W.
Site Status:	Active
District Office:	SCDO
Lat/Long:	37.80632 / -96.84944
River Basin:	Not reported
Aquifer Yield:	Not reported
Other Aquifers:	Not reported

Actual:
1278 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

EL DORADO BIOSOLIDS (Continued)

S108194868

Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: Not reported
Depth To GW: Not reported
Depth To Bedrock: Not reported
Aquifer Yield: Not reported
GW Flow Direction: Not reported
Acres Affected: Not reported
Waste Present: False
Product Present: False
Program: Brownfields
Lead Agency: BER - Remedial
Contaminants: Not reported
Media Act: Not reported
Media Pot: Not reported
Source: Not reported
Land Use: Not reported
Private well: Not reported
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Not reported
Remed Water: Not reported
Remedir: Not reported
Alias: SQUIRES SALVAGE AUTO AND PARTS
Eucan Number: Not reported
Date: Not reported
Activity Type: Not reported
Activity Status: Not reported
Activity Start Date: Not reported
Activity End Date: Not reported
Narrative: The City of El Dorado submitted an application for a Brownfield Targeted Assessment (BTA) at the Squires Salvage Yard in El Dorado, KS. The Kansas Department of Health and Environment (KDHE) approved the application 10/17/2006. KDHE conducted a Phase I BTA at the El Dorado Bio Solids/Auto Salvage BTA property in El Dorado, Kansas. The BTA was conducted for the city to evaluate a property they are proposing for sale and then redevelopment for industrial use. Recognized environmental conditions (RECs) associated with the BTA Property were identified as the following: historical use of the BTA property as an auto salvage yard, the presence of drums believed to be from illegal dumping on the property, and the upgradient location of the Frontier El Dorado Refining Company. Based on information collected during the Phase I report, it appears that the all appropriate inquiry (AAI) as a prospective purchaser has been completed with no significant data gaps. It is recommended that Phase II activities be conducted at the BTA Property. The Kansas Department of Health and Environment (KDHE) conducted a Phase II BTA at the El Dorado Bio Solids/Auto Salvage (Squires) BTA property in El Dorado, Kansas. The BTA was conducted for the city to evaluate a property they are proposing for redevelopment waste water treatment facility and outdoor education center. This Phase II BTA was conducted to investigate the presence of heavy metals and petroleum hydrocarbons including 8 RCRA metals, Volatile Organic Compounds (VOCs), Total

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

EL DORADO BIOSOLIDS (Continued)

S108194868

Petroleum Hydrocarbons - Gasoline Range (TPH-GRO), Total Petroleum Hydrocarbons - Diesel Range (TPH-DRO) within the Project Area. All of the chemicals of concern at the Site were either not detected or found at concentrations below the KDHE Risk Based Standards (RSK) Residential Soil to Groundwater Protection Pathway values with the exception of arsenic and lead. Although arsenic was detected above the KDHE RSK Residential Soil to Groundwater Protection Pathway value, it was detected below the Residential Soil Protection Pathway value for arsenic and similar to background concentrations. Lead was found in two surface soil samples at concentrations exceeding the KDHE Residential Soil Protection Pathway and three times the average background concentration but below the Non-Residential Soil Protection Pathway for lead, suggesting some impact from site activities. No analytes detected in the ground water samples taken from the Site exceeded their respective KDHE RSK values. Based on data collected during the Phase II BTA, environmental impacts were identified at the El Dorado BioSolids BTA property above residential and RSK values. It is recommended that cleanup of impacted soil occur prior to redevelopment activities, either through soil excavation within the KDHE Voluntary Cleanup Program (VCP) or placement of an Environmental Use Control (EUC) on the property restricting land use to non-residential. A complaint and subsequent site visit in December 2009 indicated that dumping of oil field waste oil and tank bottom waste has occurred on the property. Voluntary or enforcement cleanup activity is pending.

BROWNFIELDS:

Site ID: 2147
 Project code: C200872205
 PM Name: RAWLS, W.
Site Status: Active
 Program: Brownfields

4
NNW
1/2-1
0.765 mi.
4037 ft.

FORMER ST. LOUIS OIL AND REFINING COMPANY
450 FT SOUTH OF SOUTH END OF DENVER STREET
EL DORADO, KS

SHWS S107747702
N/A

Relative:
Higher

SHWS:

Site ID: 2077
 Has Env Use Control: No
 Project code: C200872135
 PM Name: VOPATA, J.
Site Status: Resolved
 District Office: SCDO
 Lat/Long: 37.8072 / -96.8566
 River Basin: Walnut
 Aquifer Yield: Chase Group
 Other Aquifers: Not reported
 Parent PC: Not reported
 Parent Name: Not reported
 CERCLIS ID: Not reported
 Discovery Date: Not reported
 Depth To GW: 0-10 feet
 Depth To Bedrock: 0-10 feet
 Aquifer Yield: 0-10 gpm

Actual:
1293 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER ST. LOUIS OIL AND REFINING COMPANY (Continued)

S107747702

GW Flow Direction: SE
Acres Affected: 5-25 acres
Waste Present: False
Product Present: False
Program: State Water Plan
Lead Agency: BER - Remedial
Contaminants: Not reported
Media Act: Not reported
Media Pot: Not reported
Source: Not reported
Land Use: Not reported
Private well: Not reported
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Not reported
Remed Water: Not reported
Remedir: Not reported
Alias: Not reported
Eucan Number: Not reported
Date: Not reported
Activity Type: Phase I Assessment
Activity Status: Completed
Activity Start Date: 7/5/2006
Activity End Date: 6/1/2007

Narrative: Several refineries across the state were identified in the fall of 2005 through historical reviews and reconnaissance activities. KDHE conducted these efforts to identify several former refinery facility locations documented to exist throughout Kansas. A Phase I FFRA completed at the subject property in June 2007 by Burns & McDonnell Engineering Company, Inc. (B&McD) included historical land use research to identify areas most likely to have been impacted, potentially responsible parties (PRPs), and potential human and environmental contaminant receptors. According to information provided in this document, the St. Louis Oil and Refining Company was built on the D. M. Green farm in the southeast portion of El Dorado and was placed into operation in 1918. By 1923, ownership of the property was transferred to the Industrial Refining Company. A 1923 Sanborn map of the site showed the general outline of the site and the refinery operations. No scale is provided on the Sanborn map. The site currently consists of approximately 2 residential parcels and 3 commercial properties. A Phase II FFRA site investigation was conducted at the Former St. Louis Oil and Refining site in July 2009. No contamination impacts were identified at the site. Therefore, in October 2009 the site was recommended for removal from the SWPCRP program. The recommendation was approved and the site was classified as resolved on November 12th, 2009.

Site ID: 2077
Has Env Use Control: No
Project code: C200872135
PM Name: VOPATA, J.
Site Status: Resolved
District Office: SCDO
Lat/Long: 37.8072 / -96.8566

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER ST. LOUIS OIL AND REFINING COMPANY (Continued)

S107747702

River Basin: Walnut
Aquifer Yield: Chase Group
Other Aquifers: Not reported
Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: Not reported
Depth To GW: 0-10 feet
Depth To Bedrock: 0-10 feet
Aquifer Yield: 0-10 gpm
GW Flow Direction: SE
Acres Affected: 5-25 acres
Waste Present: False
Product Present: False
Program: State Water Plan
Lead Agency: BER - Remedial
Contaminants: Not reported
Media Act: Not reported
Media Pot: Not reported
Source: Not reported
Land Use: Not reported
Private well: Not reported
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Not reported
Remed Water: Not reported
Remedir: Not reported
Alias: Not reported
Eucan Number: Not reported
Date: Not reported
Activity Type: Resolved
Activity Status: Completed
Activity Start Date: 11/12/2009
Activity End Date: 11/12/2009
Narrative:

Several refineries across the state were identified in the fall of 2005 through historical reviews and reconnaissance activities. KDHE conducted these efforts to identify several former refinery facility locations documented to exist throughout Kansas. A Phase I FFRA completed at the subject property in June 2007 by Burns & McDonnell Engineering Company, Inc. (B&McD) included historical land use research to identify areas most likely to have been impacted, potentially responsible parties (PRPs), and potential human and environmental contaminant receptors. According to information provided in this document, the St. Louis Oil and Refining Company was built on the D. M. Green farm in the southeast portion of El Dorado and was placed into operation in 1918. By 1923, ownership of the property was transferred to the Industrial Refining Company. A 1923 Sanborn map of the site showed the general outline of the site and the refinery operations. No scale is provided on the Sanborn map. The site currently consists of approximately 2 residential parcels and 3 commercial properties. A Phase II FFRA site investigation was conducted at the Former St. Louis Oil and Refining site in July 2009. No contamination impacts were identified at the site. Therefore, in October 2009 the site was recommended for removal from the SWPCRP

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FORMER ST. LOUIS OIL AND REFINING COMPANY (Continued)

S107747702

program. The recommendation was approved and the site was classified as resolved on November 12th, 2009.

Site ID: 2077
Has Env Use Control: No
Project code: C200872135
PM Name: VOPATA, J.
Site Status: Resolved
District Office: SCDO
Lat/Long: 37.8072 / -96.8566
River Basin: Walnut
Aquifer Yield: Chase Group
Other Aquifers: Not reported
Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: Not reported
Depth To GW: 0-10 feet
Depth To Bedrock: 0-10 feet
Aquifer Yield: 0-10 gpm
GW Flow Direction: SE
Acres Affected: 5-25 acres
Waste Present: False
Product Present: False
Program: State Water Plan
Lead Agency: BER - Remedial
Contaminants: Not reported
Media Act: Not reported
Media Pot: Not reported
Source: Not reported
Land Use: Not reported
Private well: Not reported
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Not reported
Remed Water: Not reported
Remedir: Not reported
Alias: Not reported
Eucon Number: Not reported
Date: Not reported
Activity Type: Phase II Assessment
Activity Status: Completed
Activity Start Date: 7/1/2009
Activity End Date: 9/1/2009
Narrative: Several refineries across the state were identified in the fall of 2005 through historical reviews and reconnaissance activities. KDHE conducted these efforts to identify several former refinery facility locations documented to exist throughout Kansas. A Phase I FFRA completed at the subject property in June 2007 by Burns & McDonnell Engineering Company, Inc. (B&McD) included historical land use research to identify areas most likely to have been impacted, potentially responsible parties (PRPs), and potential human and environmental contaminant receptors. According to information provided in this document, the St. Louis Oil and Refining Company was

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

FORMER ST. LOUIS OIL AND REFINING COMPANY (Continued)

S107747702

built on the D. M. Green farm in the southeast portion of El Dorado and was placed into operation in 1918. By 1923, ownership of the property was transferred to the Industrial Refining Company. A 1923 Sanborn map of the site showed the general outline of the site and the refinery operations. No scale is provided on the Sanborn map. The site currently consists of approximately 2 residential parcels and 3 commercial properties. A Phase II FFRA site investigation was conducted at the Former St. Louis Oil and Refining site in July 2009. No contamination impacts were identified at the site. Therefore, in October 2009 the site was recommended for removal from the SWPCRP program. The recommendation was approved and the site was classified as resolved on November 12th, 2009.

5
WNW
 1/2-1
 0.915 mi.
 4833 ft.

 Relative:
 Higher

 Actual:
 1281 ft.

FRONTIER EL DORADO REFINING CO
1401 SOUTH DOUGLAS ROAD
EL DORADO, KS 67042

CERC-NFRAP 1000144670
CORRACTS 67042TXCRF14
RCRA-LQG
TRIS
TSCA
FINDS
SHWS
SPILLS
HAZNET

CERC-NFRAP:
 Site ID: 0700483
 Federal Facility: Not a Federal Facility
 NPL Status: Not on the NPL
 Non NPL Status: NFRAP

CERCLIS-NFRAP Site Contact Name(s):
 Contact Title: BUDGET COORDINATOR
 Contact Name: TERI HANKINS
 Contact Tel: (913) 551-7118

 Contact Title: SITE MANAGER
 Contact Name: RON KING
 Contact Tel: (913) 551-7568

 Contact Title: Site Manager
 Contact Name: DON LININGER
 Contact Tel: (913) 551-7724

 Contact Title: Not reported
 Contact Name: PAUL ROEMERMAN
 Contact Tel: (913) 551-7694

CERCLIS-NFRAP Site Alias Name(s):
 Alias Name: FORMERLY GETTY REFINING & MARKETING CO
 Alias Address: Not reported
 KS

 Alias Name: GETTY REFINING & MARKETING CO
 Alias Address: Not reported
 KS

CERCLIS-NFRAP Assessment History:

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Action: DISCOVERY
Date Started: Not reported
Date Completed: 08/01/1980
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 02/01/1984
Date Completed: 02/01/1984
Priority Level: NFRAP: No further Remedial Action planned

Action: 6P
Date Started: Not reported
Date Completed: 06/08/1988
Priority Level: Not reported

Action: 6I
Date Started: Not reported
Date Completed: 09/12/1988
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 06/26/2007
Priority Level: Not reported

CORRACTS:

EPA ID: KSD007233422
EPA Region: 07
Area Name: ENTIRE FACILITY
Actual Date: 01/28/1992
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 32411
Petroleum Refineries
Original schedule date: Not reported
Schedule end date: Not reported

RCRA-LQG:

Date form received by agency: 03/02/2009
Facility name: FRONTIER EL DORADO REFINING CO
Facility address: 1401 S DOUGLAS RD (A)
EL DORADO, KS 67042
EPA ID: KSD007233422
Mailing address: S DOUGLAS RD (A)
EL DORADO, KS 67042
Contact: DANIEL T RAFFERTY
Contact address: S DOUGLAS RD (A)
EL DORADO, KS 67042
Contact country: US
Contact telephone: (316) 321-8456
Contact email: DRAFFERTY@FRONTIEROIL-ELD.COM
EPA Region: 07
Land type: Private
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name: FRONTIER EL DORADO REFINING CO
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/24/2005
Owner/Op end date: Not reported

Owner/operator name: FRONTIER EL DORADO REFINING CO
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/24/2005
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Universal Waste Summary:

Waste type: Batteries
Accumulated waste on-site: No
Generated waste on-site: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Waste type: Lamps
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: Not reported

Historical Generators:

Date form received by agency: 03/03/2008
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/27/2008
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 03/01/2007
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/07/2006
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/06/2006
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 09/20/2005
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 01/27/2005
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 11/12/2004
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/17/2004
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/13/2004
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/10/2003
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Date form received by agency: 02/01/2002
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 01/24/2002
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 05/10/2001
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/21/2001
Facility name: FRONTIER EL DORADO REFINING CO
Site name: FRONTIER ELDORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 11/19/1999
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Large Quantity Generator

Date form received by agency: 02/25/1998
Facility name: FRONTIER EL DORADO REFINING CO
Site name: TEXACO REFINING AND MARKETING INC
Classification: Large Quantity Generator

Date form received by agency: 02/28/1996
Facility name: FRONTIER EL DORADO REFINING CO
Site name: TEXACO REFINING AND MARKETING, INC.
Classification: Large Quantity Generator

Date form received by agency: 02/23/1994
Facility name: FRONTIER EL DORADO REFINING CO
Site name: TEXACO REFINING AND MARKETING, INC
Classification: Large Quantity Generator

Date form received by agency: 02/28/1992
Facility name: FRONTIER EL DORADO REFINING CO
Site name: TEXACO REFINING AND MARKETING INC
Classification: Large Quantity Generator

Date form received by agency: 03/30/1990
Facility name: FRONTIER EL DORADO REFINING CO
Site name: TEXACO REFINING AND MARKETING, INC.
Classification: Large Quantity Generator

Date form received by agency: 11/18/1980
Facility name: FRONTIER EL DORADO REFINING CO
Classification: Not a generator, verified

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002

Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: D007

Waste name: CHROMIUM

Waste code: D008

Waste name: LEAD

Waste code: D009

Waste name: MERCURY

Waste code: D018

Waste name: BENZENE

Waste code: F037

Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE-ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN: OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORMWATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGE GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED FROM NON-CONTACT ONCE-THROUGH COOLING WATERS SEGREGATED FOR TREATMENT FROM OTHER PROCESS OR OILY COOLING WATERS, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS) AND K051 WASTES ARE NOT INCLUDED IN THIS LISTING.

Waste code: K171

Waste name: Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (excludes inert support media)

Biennial Reports:

Last Biennial Reporting Year: 2009

Annual Waste Handled:

Waste code: D001

Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT

Map ID
Direction
Distance
Elevation

MAP FINDINGS

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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Amount (Lbs): WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
401600

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Amount (Lbs): 1500

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.

Amount (Lbs): 525000

Waste code: D004
Waste name: ARSENIC
Amount (Lbs): 450

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 6000

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 450

Waste code: D008
Waste name: LEAD
Amount (Lbs): 6000

Waste code: D010
Waste name: SELENIUM
Amount (Lbs): 450

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 653000

Waste code: D039
Waste name: TETRACHLOROETHYLENE
Amount (Lbs): 128000

Waste code: F037
Waste name: PETROLEUM REFINERY PRIMARY OIL/WATER/SOLIDS SEPARATION SLUDGE-ANY SLUDGE GENERATED FROM THE GRAVITATIONAL SEPARATION OF OIL/WATER/SOLIDS DURING THE STORAGE OR TREATMENT OF PROCESS WASTEWATERS AND OILY COOLING WASTEWATERS FROM PETROLEUM REFINERIES. SUCH SLUDGES INCLUDE, BUT ARE NOT LIMITED TO, THOSE GENERATED IN: OIL/WATER/SOLIDS SEPARATORS; TANKS AND IMPOUNDMENTS; DITCHES AND OTHER CONVEYANCES; SUMPS; AND STORMWATER UNITS RECEIVING DRY WEATHER FLOW. SLUDGE

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MAP FINDINGS

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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

GENERATED IN STORMWATER UNITS THAT DO NOT RECEIVE DRY WEATHER FLOW, SLUDGES GENERATED FROM NON-CONTACT ONCE-THROUGH COOLING WATERS SEGREGATED FOR TREATMENT FROM OTHER PROCESS OR OILY COOLING WATERS, SLUDGES GENERATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS AS DEFINED IN SECTION 261.31(B)(2) (INCLUDING SLUDGES GENERATED IN ONE OR MORE ADDITIONAL UNITS AFTER WASTEWATERS HAVE BEEN TREATED IN AGGRESSIVE BIOLOGICAL TREATMENT UNITS) AND K051 WASTES ARE NOT INCLUDED IN THIS LISTING.

Amount (Lbs):

900000

Waste code:

K050

Waste name:

HEAT EXCHANGER BUNDLE CLEANING SLUDGE FROM THE PETROLEUM REFINING INDUSTRY

Amount (Lbs):

4000

Waste code:

K171

Waste name:

Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (excludes inert support media)

Amount (Lbs):

400000

Corrective Action Summary:

Event date:

01/28/1992

Event:

CA Prioritization, Facility or area was assigned a medium corrective action priority.

Facility Has Received Notices of Violations:

Regulation violated:

SR - kar 28 31 4 g 4

Area of violation:

Generators - Pre-transport

Date violation determined:

08/05/2005

Date achieved compliance:

09/19/2005

Violation lead agency:

State

Enforcement action:

WRITTEN INFORMAL

Enforcement action date:

08/05/2005

Enf. disposition status:

Not reported

Enf. disp. status date:

Not reported

Enforcement lead agency:

State

Proposed penalty amount:

Not reported

Final penalty amount:

Not reported

Paid penalty amount:

Not reported

Regulation violated:

SR - kar 28 31 4 g 4

Area of violation:

Generators - Pre-transport

Date violation determined:

08/05/2005

Date achieved compliance:

09/19/2005

Violation lead agency:

State

Enforcement action:

WRITTEN INFORMAL

Enforcement action date:

09/20/2005

Enf. disposition status:

Not reported

Enf. disp. status date:

Not reported

Enforcement lead agency:

State

Proposed penalty amount:

Not reported

Final penalty amount:

Not reported

Paid penalty amount:

Not reported

Map ID
Direction
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MAP FINDINGS

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Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Regulation violated: SR - KAR 28 31 4 j 1 A
Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - kar 28 31 4 b
Area of violation: Generators - General
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - kar 28 31 4 b
Area of violation: Generators - General
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/02/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 j 1 B
Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 g 4

Map ID
Direction
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Elevation

MAP FINDINGS

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Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/02/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 j 1 A
Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/02/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 j 1 B
Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 01/02/2002
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 g 4
Area of violation: Generators - Pre-transport
Date violation determined: 11/28/2001
Date achieved compliance: 01/24/2002
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/28/2001
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - CFR 262
Area of violation: Generators - General

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Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Date violation determined: 08/19/1996
Date achieved compliance: 06/07/2002
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 3005 RCRA
Area of violation: TSD - Waste Pile Standards
Date violation determined: 08/19/1996
Date achieved compliance: 06/07/2002
Violation lead agency: EPA
Enforcement action: REFERRAL TO DEPARTMENT OF JUSTICE
Enforcement action date: 09/30/1998
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 G 4
Area of violation: Generators - Pre-transport
Date violation determined: 02/13/1996
Date achieved compliance: 04/22/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/13/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 14
Area of violation: LDR - General
Date violation determined: 02/13/1996
Date achieved compliance: 03/01/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/13/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 J
Area of violation: Generators - Pre-transport
Date violation determined: 02/13/1996

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Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Date achieved compliance: 03/01/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/13/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 K
Area of violation: Generators - Pre-transport
Date violation determined: 02/13/1996
Date achieved compliance: 03/01/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/13/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28 31 4 G 1
Area of violation: Generators - Pre-transport
Date violation determined: 02/13/1996
Date achieved compliance: 03/01/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/13/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 265.52
Area of violation: Generators - Pre-transport
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 262 APPENDIX
Area of violation: Generators - Manifest
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992

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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28-31-4(C)(1)
Area of violation: Generators - General
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28-31-4(G)(1)
Area of violation: Generators - Pre-transport
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 265.16(D)(1)&(2)
Area of violation: Generators - Pre-transport
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - KAR 28-31-14
Area of violation: LDR - General
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State

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EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 265.171
Area of violation: Generators - Pre-transport
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 268.7(A)
Area of violation: LDR - General
Date violation determined: 07/29/1992
Date achieved compliance: 10/29/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 09/21/1992
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/17/1989
Date achieved compliance: 02/07/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/17/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/17/1989
Date achieved compliance: 02/07/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL

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EDR ID Number
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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Enforcement action date: 12/18/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/24/1987
Date achieved compliance: 03/28/1988
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/18/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 11/05/1986
Date achieved compliance: 01/08/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/03/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 09/12/1985
Date achieved compliance: 12/19/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/08/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 08/18/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Map ID
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MAP FINDINGS

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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Evaluation date: 09/20/2005
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/05/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 09/19/2005
Evaluation lead agency: State

Evaluation date: 01/02/2002
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/28/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/24/2002
Evaluation lead agency: State

Evaluation date: 11/28/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 01/24/2002
Evaluation lead agency: State

Evaluation date: 09/30/1998
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 01/01/1998
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA

Evaluation date: 10/31/1996
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/19/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 06/07/2002
Evaluation lead agency: EPA

Evaluation date: 08/19/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Waste Pile Standards

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EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Date achieved compliance: 06/07/2002
Evaluation lead agency: EPA

Evaluation date: 02/13/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 03/01/1996
Evaluation lead agency: State

Evaluation date: 02/13/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 04/22/1996
Evaluation lead agency: State

Evaluation date: 02/13/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 03/01/1996
Evaluation lead agency: State

Evaluation date: 12/16/1992
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/29/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 10/29/1992
Evaluation lead agency: State

Evaluation date: 07/29/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 10/29/1992
Evaluation lead agency: State

Evaluation date: 07/29/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 10/29/1992
Evaluation lead agency: State

Evaluation date: 07/29/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 10/29/1992
Evaluation lead agency: State

Evaluation date: 03/23/1990
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

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FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Evaluation date: 11/17/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/07/1990
Evaluation lead agency: State

Evaluation date: 02/24/1988
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/24/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 03/28/1988
Evaluation lead agency: State

Evaluation date: 11/05/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/08/1987
Evaluation lead agency: State

Evaluation date: 12/19/1985
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 12/19/1985
Evaluation lead agency: State

[Click this hyperlink](#) while viewing on your computer to access additional TSCA detail in the EDR Site Report.

FINDS:

Registry ID: 110000446134

Environmental Interest/Information System
Not reported

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

KS-FP (Kansas - Facility Profiler) is a geographically-based data warehouse site that presents information about facilities and locations of interest to the KDHE. This site has in excess of twenty environmental interest which contains information on closed facilities, completed cleanups, and past operations as well as data on current operations and activities.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

US Facility Response Plan (FRP) contains plans for responding, to the maximum extent practical, to worst case discharges of oil.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

US EPA Risk Management Plan (RMP) database stores the risk management plans reported by companies that handle, manufacture, use, or store certain flammable or toxic substances, as required under section 112(r) of the Clean Air Act (CAA).

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

SHWS:

Site ID: 171
Has Env Use Control: No
Project code: C200800036
PM Name: WEISER, M.
Site Status: Active
District Office: SCDO
Lat/Long: 37.79498 / -96.87168
River Basin: Walnut
Aquifer Yield: Not reported
Other Aquifers: Not reported
Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: Not reported
Depth To GW: 11-20 feet
Depth To Bedrock: 0-10 feet
Aquifer Yield: 11-50 gpm
GW Flow Direction: S-SE
Acres Affected: 26-500 acres
Waste Present: False
Product Present: False
Program: State Cooperative
Lead Agency: BER - Remedial
Contaminants: Heavy Metal, Refined Petroleum, VOC
Media Act: Ground Water, Soil
Media Pot: Surface Water
Source: Facility Operations, Pipeline Leak, Spill, Underground Tank/Piping
Land Use: Commercial, Industrial, Residential
Private well: Industrial, Monitoring
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Contaminated Soil Removed/Offsite
Remed Water: Air Sparging, Cutoff Walls, Pump and Treat
Remedir: Not reported
Alias: FRONTIER REFINERY; GETTY REFINERY
Eucan Number: Not reported
Date: Not reported
Activity Type: Consent Order
Activity Status: Completed
Activity Start Date: Not reported
Activity End Date: 8/21/1988
Narrative: Historical and current facility operations at the Frontier El Dorado Refinery have contributed to environmental contamination at the Site. The Frontier Refinery was previously owned and operated by Texaco Refining and Marketing Inc. (TRMI). In 1979, TRMI began operating a Hydrocarbon Recovery System and conducting various environmental assessments to assess impacts to the groundwater and hydrocarbon contamination. TRMI has also installed various remediation systems including recovery systems, a cutoff wall, a containment barrier, recovery wells and an Air Sparge/Vapor Extraction System. TRMI and the Kansas Department of Health and Environment-Bureau of Environmental Remediation (KDHE-BER) negotiated a Consent Order (87-E-26) in September 1988 to investigate and remediate the

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

hydrocarbon contamination at the facility. In the summer of 1998, TRMI combined with Equilon Enterprises LLC, (Equilon) and the refinery was renamed El Dorado Refining Company, a Division of Equilon Enterprises LLC. On November 17, 1999, the El Dorado Plant was acquired by Frontier, but as a condition of the sale agreement, Equilon maintained overall responsibility for the oversight and management of the groundwater remediation program. Equilon began doing business as Shell Oil Products US (SOPUS) on March 1, 2002. SOPUS continues pumping and treating the contaminated groundwater and have continued a quarterly monitoring program. Frontier El Dorado Refining Company (FEDRC) is the current owner/operator of the refinery and submits quarterly monitoring reports to KDHE-BER on behalf of SOPUS. In April 2007, FEDRC, SOPUS, and Valero LP (Valero) agreed to cooperate in determining groundwater flow direction and potential sources of contamination between the northern property boundary of the Frontier Refinery and the southwestern property boundary of the Valero terminal. A letter proposal for installing 7 wells along the property boundary of the two facilities was submitted to the KDHE and approved on April 20, 2007. SOPUS installed 3 monitoring wells along the right-of-way of the Southwest Trafficway in January 2008. Groundwater monitoring is currently conducted at the Site on a quarterly basis.

Site ID: 171
Has Env Use Control: No
Project code: C200800036
PM Name: WEISER, M.
Site Status: Active
District Office: SCDO
Lat/Long: 37.79498 / -96.87168
River Basin: Walnut
Aquifer Yield: Not reported
Other Aquifers: Not reported
Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: Not reported
Depth To GW: 11-20 feet
Depth To Bedrock: 0-10 feet
Aquifer Yield: 11-50 gpm
GW Flow Direction: S-SE
Acres Affected: 26-500 acres
Waste Present: False
Product Present: False
Program: State Cooperative
Lead Agency: BER - Remedial
Contaminants: Heavy Metal, Refined Petroleum, VOC
Media Act: Ground Water, Soil
Media Pot: Surface Water
Source: Facility Operations, Pipeline Leak, Spill, Underground Tank/Piping
Land Use: Commercial, Industrial, Residential
Private well: Industrial, Monitoring
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Remed Soil: Contaminated Soil Removed/Offsite
Remed Water: Air Sparging, Cutoff Walls, Pump and Treat
Remedir: Not reported
Alias: FRONTIER REFINERY; GETTY REFINERY
Eucan Number: Not reported
Date: Not reported
Activity Type: Compliance Monitoring
Activity Status: Underway
Activity Start Date: Not reported
Activity End Date: Not reported
Narrative: Historical and current facility operations at the Frontier El Dorado Refinery have contributed to environmental contamination at the Site. The Frontier Refinery was previously owned and operated by Texaco Refining and Marketing Inc. (TRMI). In 1979, TRMI began operating a Hydrocarbon Recovery System and conducting various environmental assessments to assess impacts to the groundwater and hydrocarbon contamination. TRMI has also installed various remediation systems including recovery systems, a cutoff wall, a containment barrier, recovery wells and an Air Sparge/Vapor Extraction System. TRMI and the Kansas Department of Health and Environment-Bureau of Environmental Remediation (KDHE-BER) negotiated a Consent Order (87-E-26) in September 1988 to investigate and remediate the hydrocarbon contamination at the facility. In the summer of 1998, TRMI combined with Equilon Enterprises LLC, (Equilon) and the refinery was renamed El Dorado Refining Company, a Division of Equilon Enterprises LLC. On November 17, 1999, the El Dorado Plant was acquired by Frontier, but as a condition of the sale agreement, Equilon maintained overall responsibility for the oversight and management of the groundwater remediation program. Equilon began doing business as Shell Oil Products US (SOPUS) on March 1, 2002. SOPUS continues pumping and treating the contaminated groundwater and have continued a quarterly monitoring program. Frontier El Dorado Refining Company (FEDRC) is the current owner/operator of the refinery and submits quarterly monitoring reports to KDHE-BER on behalf of SOPUS. In April 2007, FEDRC, SOPUS, and Valero LP (Valero) agreed to cooperate in determining groundwater flow direction and potential sources of contamination between the northern property boundary of the Frontier Refinery and the southwestern property boundary of the Valero terminal. A letter proposal for installing 7 wells along the property boundary of the two facilities was submitted to the KDHE and approved on April 20, 2007. SOPUS installed 3 monitoring wells along the right-of-way of the Southwest Trafficway in January 2008. Groundwater monitoring is currently conducted at the Site on a quarterly basis.

SPILLS:

Evacuation: Not reported
Responders: Not reported
Reported Cause: other
Cause Description: Not reported
Cleanup Description: physical removal
Comments: Not reported
Damage Description: Not reported
Damage Number Of Deaths: Not reported
Damage Number If Injuries: Not reported
Property Damage > \$50,000: Undetermined
Discovery Date: 1987-12-01

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Discovery Time: 0830
Spill Date: Not reported
Spill Time: Not reported
Discharger Name: Texaco Refining Co
Discharger Facid: Not reported
Discharger Org Id: Not reported
Discharger Organization Type: Private Industry/Company
Discharger Phone 1: 316-321-2200
Discharger Ext. 1: Not reported
Discharger Phone 2: Not reported
Discharger Ext. 2: Not reported
Discharger Address: 1401 S Douglas
Discharger City, State, Zip: El Dorado, KS 67042-3674
Discharger Contact: jOHN hARSTEIN
District: SC
incgpssour: Not reported
Highway Designation: Not reported
Highway Type: Not reported
KCC District: Wichita
Latitude: Not reported
Latitude min: Not reported
Latitude sec: Not reported
Lease Number: Not reported
Longitude: Not reported
Longitude min: Not reported
Longitude sec: Not reported
Mile Post: Not reported
incqtr1: Not reported
incqtr2: Not reported
incqtr3: Not reported
incqtr4: Not reported
Incident Range: Not reported
Incident Section: Not reported
Incident Township: Not reported
Did EPA Respond?: Unknown
EPA Spill Number: Not reported
Initial Entry By: Pierre Sutphin
Initial Entry Completed: Yes
KCC Spill Number: Not reported
Method Receive Initial Call: Not reported
Multiple Report: Not reported
inircno: Not reported
Old Spill Number: Not reported
Reported Date: 1987-12-01
Reported Time: 1330
Incident Recorded By: Not reported
SSI Report: Not reported
Spill Number: 16985
Spill Or Complaint: Spill
Spill Stage: Initial Assessment
Through NRC: Unknown
Updated By: TW Wilson
Investigating Agency: KDHE
Hours Worked 1: 0.5
Hours Worked 2: Not reported
Hours Worked 3: Not reported
State Visited By KDHE?: Unknown

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Investigated By 1:	Ralph OConnor
Investigated By 2:	Not reported
Investigated By 3:	Not reported
Quantity Spilled 1:	20
Qty Spilled Comment 1:	estimated
Quantity Spilled 2:	Not reported
Qty Spilled Comment 2:	Not reported
Quantity Spilled 3:	Not reported
Qty Spilled Comment 3:	Not reported
Case Number 1:	8002059
Case Number 2:	Not reported
Case Number 3:	Not reported
Class 1:	other oil
Class 2:	Not reported
Class 3:	Not reported
Qty Spilled In Water 1:	Not reported
Qty Spilled In Water Comment 1:	Not reported
Qty Spilled In Water 2:	Not reported
Qty Spilled In Water Comment 2:	Not reported
Qty Spilled In Water 3:	Not reported
Qty Spilled In Water Comment 3:	Not reported
Material Name 1:	waste oil
Material Name 2:	Not reported
Material Name 3:	Not reported
Qty Recovered 1:	Not reported
Qty Recovered Comment 1:	unknown
Qty Recovered 2:	Not reported
Qty Recovered Comment 2:	Not reported
Qty Recovered 3:	Not reported
Qty Recovered Comment 2:	Not reported
Material UNDOT Number 1:	1267
Material UNDOT Number 2:	Not reported
Material UNDOT Number 3:	Not reported
Unit 1:	gallons
Unit 2:	Not reported
Unit 3:	Not reported
Media Affected:	soil
Media Waterway:	Constant Creek
Media Waterway Type:	creek
Who Notified:	Not reported
Notified:	Not reported
Spill Report:	Yes
Description:	Not reported
Number Of Tanks:	Not reported
Source Of Spill:	fixed facility
Tank Capacity:	Not reported
Tank Unit:	Not reported
Vehicle ID:	Not reported
Close Date:	1987-12-11
"Follow-up Required:	Not reported
Response Required By:	Not reported
Status:	Closed
Evacuation:	Not reported
Responders:	Not reported
Reported Cause:	storm/wind
Cause Description:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Cleanup Description: "Sampled for oil and grease at lab later today"unknown
Comments: Not reported
Damage Description: Not reported
Damage Number Of Deaths: Not reported
Damage Number If Injuries: Not reported
Property Damage > \$50,000: Undetermined
Discovery Date: 2002-05-08
Discovery Time: 0345
Spill Date: Not reported
Spill Time: Not reported
Discharger Name: Frontier Refining
Discharger Facid: Not reported
Discharger Org Id: Not reported
Discharger Organization Type: Private Industry/Company
Discharger Phone 1: 316-321-8209
Discharger Ext. 1: Not reported
Discharger Phone 2: Not reported
Discharger Ext. 2: Not reported
Discharger Address: 1401 S Douglas
Discharger City,State, Zip: El Dorado, KS
Discharger Contact: Tom Brush
District: SC
incgpssour: Not reported
Highway Designation: Not reported
Highway Type: Not reported
KCC District: Wichita
Latitude: Not reported
Latitude min: Not reported
Latitude sec: Not reported
Lease Number: Not reported
Longitude: Not reported
Longitude min: Not reported
Longitude sec: Not reported
Mile Post: Not reported
incqtr1: Not reported
incqtr2: Not reported
incqtr3: Not reported
incqtr4: Not reported
Incident Range: Not reported
Incident Section: Not reported
Incident Township: Not reported
Did EPA Respond?: Unknown
EPA Spill Number: Not reported
Initial Entry By: Kathleen Waters
Initial Entry Completed: Yes
KCC Spill Number: Not reported
Method Receive Initial Call: Not reported
Multiple Report: Not reported
inircno: Not reported
Old Spill Number: Not reported
Reported Date: 2002-05-08
Reported Time: 0359
Incident Recorded By: Kathleen Waters
SSI Report: Not reported
Spill Number: 23662
Spill Or Complaint: Spill
Spill Stage: Initial Assessment

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Through NRC:	Unknown
Updated By:	TW Wilson
Investigating Agency:	KDHE
Hours Worked 1:	0.3
Hours Worked 2:	Not reported
Hours Worked 3:	Not reported
State Visited By KDHE?:	Unknown
Investigated By 1:	Kyle Parker
Investigated By 2:	Not reported
Investigated By 3:	Not reported
Quantity Spilled 1:	Not reported
Qty Spilled Comment 1:	unknown
Quantity Spilled 2:	Not reported
Qty Spilled Comment 2:	Not reported
Quantity Spilled 3:	Not reported
Qty Spilled Comment 3:	Not reported
Case Number 1:	Not reported
Case Number 2:	Not reported
Case Number 3:	Not reported
Class 1:	other oil
Class 2:	Not reported
Class 3:	Not reported
Qty Spilled In Water 1:	Not reported
Qty Spilled In Water Comment 1:	unknown
Qty Spilled In Water 2:	Not reported
Qty Spilled In Water Comment 2:	Not reported
Qty Spilled In Water 3:	Not reported
Qty Spilled In Water Comment 3:	Not reported
Material Name 1:	oil and grease
Material Name 2:	Not reported
Material Name 3:	Not reported
Qty Recovered 1:	0
Qty Recovered Comment 1:	actual
Qty Recovered 2:	Not reported
Qty Recovered Comment 2:	Not reported
Qty Recovered 3:	Not reported
Qty Recovered Comment 2:	Not reported
Material UNDOT Number 1:	Not reported
Material UNDOT Number 2:	Not reported
Material UNDOT Number 3:	Not reported
Unit 1:	unknown
Unit 2:	Not reported
Unit 3:	Not reported
Media Affected:	soil
Media Waterway:	Not reported
Media Waterway Type:	Not reported
Who Notified:	SCDO
Notified:	Not reported
Spill Report:	Yes
Description:	Not reported
Number Of Tanks:	Not reported
Source Of Spill:	fixed facility
Tank Capacity:	Not reported
Tank Unit:	Not reported
Vehicle ID:	Not reported
Close Date:	2002-05-08
"Follow-up Required:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

FRONTIER EL DORADO REFINING CO (Continued)

1000144670

Response Required By: Not reported
Status: Closed

HAZNET:

Gepaid: KSD007233422
Contact: GORDON HUBBARD
Telephone: 9792452414
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 1121
Mailing City,St,Zip: EL DORADO, KS 67042
Gen County: Not reported
TSD EPA ID: CAD060398229
TSD County: Los Angeles
Waste Category: Not reported
Disposal Method: H010
Tons: 1.2
Facility County: Not reported

Gepaid: KSD007233422
Contact: GORDON HUBBARD
Telephone: 9792452414
Facility Addr2: Not reported
Mailing Name: Not reported
Mailing Address: PO BOX 1121
Mailing City,St,Zip: EL DORADO, KS 67042
Gen County: Not reported
TSD EPA ID: CAD060398229
TSD County: Not reported
Waste Category: Other spent catalyst
Disposal Method: Recycler
Tons: 85.22
Facility County: 0

6
WNW
1/2-1
0.997 mi.
5264 ft.

1414 SUNSET
EL DORADO, KS 67042

SHWS **S107032627**
SPILLS **N/A**
VCP

Relative:
Higher

SHWS:

Site ID: 177
Has Env Use Control: No
Project code: C200800461
PM Name: MORGAN, D.
Site Status: Active
District Office: SCDO
Lat/Long: 37.80407 / -96.87021
River Basin: Walnut
Aquifer Yield: Not reported
Other Aquifers: Surficial
Parent PC: Not reported
Parent Name: Not reported
CERCLIS ID: Not reported
Discovery Date: 6/1/1999
Depth To GW: 0-10 feet
Depth To Bedrock: 0-10 feet

Actual:
1280 ft.

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

S107032627

Aquifer Yield: 11-50 gpm
GW Flow Direction: E
Acres Affected: Not reported
Waste Present: False
Product Present: False
Program: Voluntary Cleanup
Lead Agency: BER - Remedial
Contaminants: VOC
Media Act: Surface Water
Media Pot: Ground Water, Soil
Source: Not reported
Land Use: Commercial, Industrial, Residential
Private well: Not reported
Waste Present: Not reported
Product: Not reported
Receptor Act: Not reported
Receptor Pot: Not reported
Remed Air: Not reported
Remed Soil: Not reported
Remed Water: Not reported
Remedir: Not reported
Alias: Not reported
Eucan Number: Not reported
Date: Not reported
Activity Type: Not reported
Activity Status: Not reported
Activity Start Date: Not reported
Activity End Date: Not reported
Narrative: The David Love Spring site is located in El Dorado, Butler County, Kansas at 1418 Sunset Road. The site was discovered June 1, 1989 when a spring on a property owned by R.K. Love was sampled by KDHE South Central District Office staff. The sample contained benzene, toluene, ethylbenzene, meta-xylene, and ortho-xylene. The spring discharges to Constant Creek and is located near a Kaneb Pipeline Company bulk storage facility, a Williams Pipeline Company bulk storage facility, and a Texaco Refinery. In June 1989, KDHE requested that Kaneb Pipeline Company and Williams Pipeline Company perform a Remedial Investigation/Feasibility (RI/FS) to determine the source of the petroleum contamination. Each company conducted limited soil sampling at their respective facilities with negative results. Both companies refused to install monitoring wells. In 1992, KDHE collected samples from private wells near the spring and from Constant Creek. One abandoned well located up-gradient from the spring and adjacent to Kaneb Pipeline Company's storage facility contained petroleum product. No other well or surface water samples were contaminated with volatile organic compounds (VOCs). In 1994 the site was referred to the United States Environmental Protection Agency (EPA) for action under the Oil Pollution Act (OPA). EPA conducted a Site Investigation on May 4, 1994. According to an EPA site progress report, Wood Ramsey, an EPA On-site Coordinator (OSC), visited the site, however no sheen was observed on Constant Creek because of low water levels. Mr. Ramsey instructed Mr. Love to contact EPA when a sheen was visible so a determination could be made that an oil discharge was occurring. Apparently, Mr. Ramsey was not contacted by Mr. Love and no additional EPA investigation was conducted. In March 1996, Rachel Miller and John Cregan of KDHE drilled nine temporary monitoring well/piezometers near the site. Two of the wells were later completed

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

S107032627

as permanent monitoring wells. According to an internal memorandum from Rachel Miller to Erica Bessey of KDHE, the data collected from the wells confirmed the existence of benzene above its MCL of 5.0 g/l in ground water and petroleum hydrocarbon contamination in soils immediately down-gradient of the Kanab Pipeline facility. However, continued negotiations with Kanab Pipeline Company to address the contamination have not been successful. During this Pre-CERCLIS Site Reconnaissance and Evaluation (SRE), a KDHE field team collected surface water samples from the spring and ground water samples from two monitoring wells. The sampling event documented the discharge of refined petroleum by the detection of petroleum hydrocarbons and associated methyl tert-butyl ether (MtBE) in ground water and surface water samples. The field team also observed and photographed a sheen on the surface water of the spring. Petroleum is excluded for consideration as a hazardous substance, pollutant, or contaminant by 101(14) and 101(33) of CERCLA and according to a 1983 EPA memorandum, MtBE may also fall within the petroleum exclusion because it was likely blended into the petroleum at a refinery or terminal. Further CERCLA response actions appear to be limited at the David Love Spring site because of the petroleum exclusion of CERCLA. Since a release of petroleum to surface water has been demonstrated, and downstream surface water bodies are considered navigable, the site may qualify for further response actions under the Oil Pollution Act (OPA) consistent with 300.300-300.310 of the National Contingency Plan (NCP). No actions were addressed under OPA. KDHE Pre-NPL Unit completed a SRE in January, 2000. Possible Sources included Kanab Pipe Line and Williams Pipe Line tank farms and the El Dorado Refinery. Kanab entered the VCPRP in 2000 to investigate their property. Investigations for a VCI were begun in April, 2001. Initial Results of VCI were received on June 25, 2001, and indicated that soil and ground water on the property were contaminated with BTEX and TPH above KDHE cleanup levels. This contamination is moving off-property in the downgradient direction towards David Love Springs. The Voluntary Cleanup Investigation was completed and accepted on September 20, 2001. On Property sources were identified. A Voluntary Cleanup Proposal was requested September 20, 2001. See Kanab Pipe Line El Dorado site (C2-008-70978) for more details.

SPILLS:

Evacuation:	Not reported
Responders:	Not reported
Reported Cause:	unknown
Cause Description:	Not reported
Cleanup Description:	unknown
Comments:	Not reported
Damage Description:	Not reported
Damage Number Of Deaths:	Not reported
Damage Number If Injuries:	Not reported
Property Damage > \$50,000:	Undetermined
Discovery Date:	1989-05-21
Discovery Time:	0030
Spill Date:	Not reported
Spill Time:	Not reported
Discharger Name:	Texaco Refinery
Discharger Facid:	Not reported
Discharger Org Id:	Not reported
Discharger Organization Type:	Industry/Company

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

S107032627

Discharger Phone 1: 316-236-3881
Discharger Ext. 1: Not reported
Discharger Phone 2: Not reported
Discharger Ext. 2: Not reported
Discharger Address: Haverhill Road
Discharger City,State, Zip: El Dorado,
Discharger Contact: Not reported
District: SC
incgpssour: Not reported
Highway Designation: Not reported
Highway Type: Not reported
KCC District: Wichita
Latitude: Not reported
Latitude min: Not reported
Latitude sec: Not reported
Lease Number: Not reported
Longitude: Not reported
Longitude min: Not reported
Longitude sec: Not reported
Mile Post: Not reported
incqtr1: Not reported
incqtr2: Not reported
incqtr3: Not reported
incqtr4: Not reported
Incident Range: Not reported
Incident Section: Not reported
Incident Township: Not reported
Did EPA Respond?: Unknown
EPA Spill Number: Not reported
Initial Entry By: John Jones
Initial Entry Completed: Yes
KCC Spill Number: Not reported
Method Receive Initial Call: EPA
Multiple Report: Not reported
inircno: Not reported
Old Spill Number: Not reported
Reported Date: 1989-05-22
Reported Time: 1552
Incident Recorded By: Shelly
SSI Report: Not reported
Spill Number: 31623
Spill Or Complaint: Spill
Spill Stage: Initial Assessment
Through NRC: Unknown
Updated By: Not reported
Investigating Agency: KDHE
Hours Worked 1: 2
Hours Worked 2: 0.3
Hours Worked 3: Not reported
State Visited By KDHE?: Yes
Investigated By 1: Ralph O'connor
Investigated By 2: John Jones
Investigated By 3: Not reported
Quantity Spilled 1: Not reported
Qty Spilled Comment 1: unknown
Quantity Spilled 2: Not reported
Qty Spilled Comment 2: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

(Continued)

S107032627

Quantity Spilled 3:	Not reported
Qty Spilled Comment 3:	Not reported
Case Number 1:	8006619
Case Number 2:	Not reported
Case Number 3:	Not reported
Class 1:	fuels
Class 2:	Not reported
Class 3:	Not reported
Qty Spilled In Water 1:	Not reported
Qty Spilled In Water Comment 1:	unknown
Qty Spilled In Water 2:	Not reported
Qty Spilled In Water Comment 2:	Not reported
Qty Spilled In Water 3:	Not reported
Qty Spilled In Water Comment 3:	Not reported
Material Name 1:	gasoline
Material Name 2:	Not reported
Material Name 3:	Not reported
Qty Recovered 1:	Not reported
Qty Recovered Comment 1:	Not reported
Qty Recovered 2:	Not reported
Qty Recovered Comment 2:	Not reported
Qty Recovered 3:	Not reported
Qty Recovered Comment 2:	Not reported
Material UNDOT Number 1:	1203
Material UNDOT Number 2:	Not reported
Material UNDOT Number 3:	Not reported
Unit 1:	gallons
Unit 2:	Not reported
Unit 3:	Not reported
Media Affected:	soil;surface water
Media Waterway:	Not reported
Media Waterway Type:	creek
Who Notified:	Not reported
Notified:	EPA, KDHE
Spill Report:	No
Description:	Not reported
Number Of Tanks:	Not reported
Source Of Spill:	AST
Tank Capacity:	Not reported
Tank Unit:	Not reported
Vehicle ID:	Not reported
Close Date:	Not reported
"Follow-up Required:	Not reported
Response Required By:	Not reported
Status:	Conditional Closure

VCP:

Site ID:	177
Project code:	C200800461
PM Name:	MORGAN, D.
Site Status:	Active
Program:	Voluntary Cleanup

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
BUTLER COUNTY	S109899920	BRUCE OIL CO-EL DORADO REFINERY	NW/4 34-25-05E		TIER 2
EL DORADO	1012097769	EL DORADO BUSINESS PARK #3	I 35 & KANSAS	67042	FINDS
EL DORADO	1012090700	EL DORADO INDUSTRIAL SITE #1	I 35 INTERSECTIONOF	67042	FINDS
EL DORADO	S106782173	RETREAT	1845 HWY 54	67042	LUST
EL DORADO	S109907587	REGIONAL ENERGY GROUP-EL DORADO	4024 W CENTRAL	67042	TIER 2
EL DORADO	1012097888	EL DORADO THEATER	CENTRAL AVE & GRIFFITH ST	67042	FINDS
EL DORADO	1008904019	REGIONAL ENERGY GROUP-EL DORADO	4024 W CENTRAL	67042	FINDS
EL DORADO	1012090694	EL DORADO INDUSTRIAL SITE #2	NW CORNER OF N OIL HILL & N HA	67042	FINDS
EL DORADO	1010151071	BENCOR/EL DORADO L.P.	SW CORNER OF N MAIN & 6TH AVE	67042	FINDS
EL DORADO	98458985	1416 SW DOUGLAS RD EL DORADO	1416 DOUGLAS RD	67042	ERNS
EL DORADO	1009453965	EL DORADO MAINTENANCE AREA	EXIT KANSAS TPKE	67042	FINDS
EL DORADO	1012069829	EL DORADO PROPANE TERMINAL	1651 HAVERHILL RD	67042	FINDS
EL DORADO	1004704155		INDUSTRIAL RD & 1ST BLK N 254	67042	RCRA-NonGen, FINDS
EL DORADO	S110121991	AJ'S TANK TRUCK SERVICE	1257 SW MAIN S	67042	SHWS, VCP
EL DORADO	1006426250		1 MILE N P ICKRELL CONER HWY54	67042	CERCLIS, FINDS
EL DORADO	1012090680	EL DORADO INDUSTRIAL SITE #3	NE OF INTERSECTION 6TH AVE	67042	FINDS
EL DORADO	1012127115	EL DORADO INDUSTRIAL PARK SITE #7	N OIL HILL RD	67042	US BROWNFIELDS
EL DORADO	1011980630	EL DORADO INDUSTRIAL PARK SITE #7	N OIL HILL RD	67042	FINDS
EL DORADO	1011902391	EL DORADO INDUSTRIAL PARK #6	N OIL HILL RD	67042	FINDS
EL DORADO	1010496903	EL DORADO WEST INDUSTRIAL PARK BTA	SW PARALLEL ST	67042	FINDS
EL DORADO	1011813003	EL DORADO WEST INDUSTRIAL PARK	SW PARALLEL ST	67042	US BROWNFIELDS
EL DORADO	1004705114		TRACKSNEAR 6TH & HWY 77	67042	RCRA-NonGen, FINDS
EL DORADO	1011977673	CAPTAIN JACK THOMAS/EL	UNKNOWN	67042	FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 03/31/2010	Source: EPA
Date Data Arrived at EDR: 04/02/2010	Telephone: N/A
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/14/2010
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 03/31/2010	Source: EPA
Date Data Arrived at EDR: 04/02/2010	Telephone: N/A
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/14/2010
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/16/2010
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/29/2010
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

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.

Date of Government Version: 03/31/2010	Source: EPA
Date Data Arrived at EDR: 04/02/2010	Telephone: N/A
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/14/2010
Number of Days to Update: 10	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/29/2010	Source: EPA
Date Data Arrived at EDR: 02/09/2010	Telephone: 703-412-9810
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 09/02/2010
Number of Days to Update: 62	Next Scheduled EDR Contact: 10/11/2010
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA's Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 06/23/2009	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/15/2010	Telephone: 703-603-8704
Date Made Active in Reports: 02/10/2010	Last EDR Contact: 07/21/2010
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates 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), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. 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.

Date of Government Version: 06/23/2009	Source: EPA
Date Data Arrived at EDR: 09/02/2009	Telephone: 703-412-9810
Date Made Active in Reports: 09/21/2009	Last EDR Contact: 09/02/2010
Number of Days to Update: 19	Next Scheduled EDR Contact: 12/13/2010
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/25/2010
Date Data Arrived at EDR: 03/31/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 57

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/29/2010
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 913-551-7003
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 913-551-7003
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 913-551-7003
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 913-551-7003
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/20/2009	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/20/2010	Telephone: 703-603-0695
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 09/13/2010
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/27/2010
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/20/2009	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/20/2010	Telephone: 703-603-0695
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 09/13/2010
Number of Days to Update: 82	Next Scheduled EDR Contact: 12/27/2010
	Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 07/09/2010	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 07/09/2010	Telephone: 202-267-2180
Date Made Active in Reports: 08/17/2010	Last EDR Contact: 07/09/2010
Number of Days to Update: 39	Next Scheduled EDR Contact: 10/18/2010
	Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Identified Sites List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 08/18/2010	Source: Department of Health and Environment
Date Data Arrived at EDR: 08/19/2010	Telephone: 785-296-1660
Date Made Active in Reports: 08/30/2010	Last EDR Contact: 07/19/2010
Number of Days to Update: 11	Next Scheduled EDR Contact: 11/01/2010
	Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Directory of Sanitary Landfills, Solid Waste Transfer Stations and Collector in Kansas

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/26/2010
Date Data Arrived at EDR: 07/26/2010
Date Made Active in Reports: 08/23/2010
Number of Days to Update: 28

Source: Department of Health and Environment
Telephone: 785-296-1590
Last EDR Contact: 07/26/2010
Next Scheduled EDR Contact: 11/08/2010
Data Release Frequency: Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Data

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 08/20/2010
Date Data Arrived at EDR: 08/23/2010
Date Made Active in Reports: 08/30/2010
Number of Days to Update: 7

Source: Department of Health and Environment
Telephone: 785-296-1685
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 10/25/2010
Data Release Frequency: Quarterly

LAST: Leaking Aboveground Storage Tanks

Leaking aboveground storage tank site locations.

Date of Government Version: 08/20/2010
Date Data Arrived at EDR: 08/23/2010
Date Made Active in Reports: 08/30/2010
Number of Days to Update: 7

Source: Department of Health & Environment
Telephone: 785-296-1685
Last EDR Contact: 07/12/2010
Next Scheduled EDR Contact: 10/25/2010
Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/24/2010
Date Data Arrived at EDR: 05/27/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 74

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 11/04/2009
Date Data Arrived at EDR: 05/04/2010
Date Made Active in Reports: 07/07/2010
Number of Days to Update: 64

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/03/2010
Date Data Arrived at EDR: 05/05/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 22

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 08/02/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/04/2010	Source: EPA Region 10
Date Data Arrived at EDR: 05/05/2010	Telephone: 206-553-2857
Date Made Active in Reports: 05/27/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/28/2010	Telephone: 415-972-3372
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 73	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/19/2010	Source: EPA Region 4
Date Data Arrived at EDR: 05/21/2010	Telephone: 404-562-8677
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Semi-Annually

State and tribal registered storage tank lists

UST: Underground Storage Tank Data

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/20/2010	Source: Department of Health and Environment
Date Data Arrived at EDR: 08/23/2010	Telephone: 785-296-1685
Date Made Active in Reports: 08/30/2010	Last EDR Contact: 07/12/2010
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Quarterly

AST: Aboveground Storage Tank Data

Registered Aboveground Storage Tanks.

Date of Government Version: 08/20/2010	Source: Department of Health and Environment
Date Data Arrived at EDR: 08/23/2010	Telephone: 785-296-1685
Date Made Active in Reports: 08/30/2010	Last EDR Contact: 07/12/2010
Number of Days to Update: 7	Next Scheduled EDR Contact: 10/25/2010
	Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 02/11/2010	Source: EPA Region 5
Date Data Arrived at EDR: 02/11/2010	Telephone: 312-886-6136
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 60	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009	Source: EPA, Region 1
Date Data Arrived at EDR: 02/19/2009	Telephone: 617-918-1313
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 08/02/2010
Number of Days to Update: 25	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/04/2010	Source: EPA Region 10
Date Data Arrived at EDR: 05/05/2010	Telephone: 206-553-2857
Date Made Active in Reports: 05/27/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008	Source: EPA Region 7
Date Data Arrived at EDR: 12/30/2008	Telephone: 913-551-7003
Date Made Active in Reports: 03/16/2009	Last EDR Contact: 08/11/2010
Number of Days to Update: 76	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/24/2010	Source: EPA Region 8
Date Data Arrived at EDR: 05/27/2010	Telephone: 303-312-6137
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 74	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2010	Source: EPA Region 9
Date Data Arrived at EDR: 05/28/2010	Telephone: 415-972-3368
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 73	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/03/2010	Source: EPA Region 6
Date Data Arrived at EDR: 05/05/2010	Telephone: 214-665-7591
Date Made Active in Reports: 05/27/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 22	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/19/2010	Source: EPA Region 4
Date Data Arrived at EDR: 05/21/2010	Telephone: 404-562-9424
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 80	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Semi-Annually

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010	Source: FEMA
Date Data Arrived at EDR: 02/16/2010	Telephone: 202-646-5797
Date Made Active in Reports: 04/12/2010	Last EDR Contact: 07/19/2010
Number of Days to Update: 55	Next Scheduled EDR Contact: 11/01/2010
	Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

INST CONTROL: Institutional Controls Information

Sites that have institutional control information entered into the Identified Sites List database.

Date of Government Version: 08/18/2010	Source: Department of Health & Environment
Date Data Arrived at EDR: 08/19/2010	Telephone: 785-296-8049
Date Made Active in Reports: 08/30/2010	Last EDR Contact: 04/19/2010
Number of Days to Update: 11	Next Scheduled EDR Contact: 08/02/2010
	Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008	Source: EPA, Region 1
Date Data Arrived at EDR: 04/22/2008	Telephone: 617-918-1102
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 07/08/2010
Number of Days to Update: 27	Next Scheduled EDR Contact: 10/18/2010
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

VCP: Identified Sites List

Sites included in the Identified Sites List that are identified as Voluntary Cleanup sites.

Date of Government Version: 08/18/2010	Source: Department of Health & Environment
Date Data Arrived at EDR: 08/19/2010	Telephone: 785-296-8049
Date Made Active in Reports: 08/30/2010	Last EDR Contact: 07/19/2010
Number of Days to Update: 11	Next Scheduled EDR Contact: 11/01/2010
	Data Release Frequency: Quarterly

State and tribal Brownfields sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

BROWNFIELDS: Identified Sites List

Sites included in the Identified Sites List that are identified as Brownfields sites.

Date of Government Version: 08/18/2010
Date Data Arrived at EDR: 08/19/2010
Date Made Active in Reports: 08/30/2010
Number of Days to Update: 11

Source: Department of Health & Environment
Telephone: 785-296-8049
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 06/24/2010
Date Data Arrived at EDR: 06/25/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/28/2010
Next Scheduled EDR Contact: 09/20/2010
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 09/07/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site 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. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/07/2010	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 06/18/2010	Telephone: 202-307-1000
Date Made Active in Reports: 08/17/2010	Last EDR Contact: 03/08/2010
Number of Days to Update: 60	Next Scheduled EDR Contact: 09/20/2010
	Data Release Frequency: Quarterly

AOCONCERN: Area of Concern

The City of Wichita has taken the lead for the investigation and remediation efforts with the Kansas Department of Health & Environment, Bureau of Remediation. The primary contaminants of concern are chlorinated solvents and their degradation products.

Date of Government Version: N/A	Source: Department of Environmental Health
Date Data Arrived at EDR: 04/25/2002	Telephone: 315-268-8351
Date Made Active in Reports: 06/28/2002	Last EDR Contact: 03/13/2007
Number of Days to Update: 64	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

CDL: Clandestine Laboratory Data Clandestine meth lab location

Date of Government Version: 09/29/2009	Source: Department of Health and Environment
Date Data Arrived at EDR: 10/02/2009	Telephone: 785-368-7301
Date Made Active in Reports: 10/20/2009	Last EDR Contact: 08/23/2010
Number of Days to Update: 18	Next Scheduled EDR Contact: 12/06/2010
	Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site 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. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 11/19/2008	Telephone: 202-307-1000
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 131	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/06/2010	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/11/2010	Telephone: 202-564-6023
Date Made Active in Reports: 08/09/2010	Last EDR Contact: 08/02/2010
Number of Days to Update: 90	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 09/08/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 04/06/2010
Date Data Arrived at EDR: 04/07/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 50

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 07/09/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Annually

SPILLS: Kansas Spills Database

All spills reported under the regulatory authority of the Department of Health & Environment and the Kansas Corporation Commission.

Date of Government Version: 05/03/2010
Date Data Arrived at EDR: 05/07/2010
Date Made Active in Reports: 06/25/2010
Number of Days to Update: 49

Source: Department of Health and Environment
Telephone: 785-296-1660
Last EDR Contact: 07/19/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo 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. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 02/17/2010
Date Data Arrived at EDR: 02/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 913-551-7003
Last EDR Contact: 08/19/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/12/2010
Date Data Arrived at EDR: 02/09/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 62

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/30/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 62

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 09/14/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 04/11/2010
Date Data Arrived at EDR: 04/19/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 28

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/08/2010
Next Scheduled EDR Contact: 10/18/2010
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 06/01/2010
Date Data Arrived at EDR: 06/16/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 62

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 09/15/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 05/08/2009
Number of Days to Update: 1

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/07/2010
Date Data Arrived at EDR: 06/09/2010
Date Made Active in Reports: 08/30/2010
Number of Days to Update: 82

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 09/09/2010
Next Scheduled EDR Contact: 12/20/2010
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/13/2010
Date Made Active in Reports: 02/18/2010
Number of Days to Update: 36

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 09/01/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 01/06/2010
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 08/16/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 04/24/2010
Date Data Arrived at EDR: 04/29/2010
Date Made Active in Reports: 05/17/2010
Number of Days to Update: 18

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 06/25/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 02/01/2010
Date Data Arrived at EDR: 04/22/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 109

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 07/30/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/18/2010
Date Data Arrived at EDR: 04/06/2010
Date Made Active in Reports: 05/27/2010
Number of Days to Update: 51

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 09/13/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/13/2010
Date Data Arrived at EDR: 07/14/2010
Date Made Active in Reports: 08/09/2010
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/14/2010
Next Scheduled EDR Contact: 10/25/2010
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/14/2010	Source: EPA
Date Data Arrived at EDR: 04/16/2010	Telephone: (913) 551-7003
Date Made Active in Reports: 05/27/2010	Last EDR Contact: 09/15/2010
Number of Days to Update: 41	Next Scheduled EDR Contact: 12/27/2010
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007	Source: EPA/NTIS
Date Data Arrived at EDR: 02/25/2010	Telephone: 800-424-9346
Date Made Active in Reports: 05/12/2010	Last EDR Contact: 08/24/2010
Number of Days to Update: 76	Next Scheduled EDR Contact: 12/06/2010
	Data Release Frequency: Biennially

UIC: Underground Injection Wells Database Listing

A listing of underground injection wells.

Date of Government Version: 02/04/2010	Source: Department of Health & Environment
Date Data Arrived at EDR: 02/04/2010	Telephone: 785-296-1367
Date Made Active in Reports: 02/18/2010	Last EDR Contact: 08/16/2010
Number of Days to Update: 14	Next Scheduled EDR Contact: 11/15/2010
	Data Release Frequency: Varies

DRYCLEANERS: Registered Drycleaning Facilities

A listing of registered drycleaners.

Date of Government Version: 06/07/2010	Source: Department of Health & Environment
Date Data Arrived at EDR: 06/07/2010	Telephone: 785-291-3250
Date Made Active in Reports: 06/25/2010	Last EDR Contact: 09/07/2010
Number of Days to Update: 18	Next Scheduled EDR Contact: 12/20/2010
	Data Release Frequency: Varies

TIER 2: Tier 2 Information Listing

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/19/2010
Date Made Active in Reports: 07/22/2010
Number of Days to Update: 3

Source: Department of Health & Environment
Telephone: 785-296-1688
Last EDR Contact: 07/07/2010
Next Scheduled EDR Contact: 10/11/2010
Data Release Frequency: Annually

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 05/12/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 08/17/2010
Number of Days to Update: 96

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/23/2010
Next Scheduled EDR Contact: 11/08/2010
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administered lands of the United States. Lands included are administered by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/22/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: N/A

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/10/2010
Next Scheduled EDR Contact: 11/15/2010
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 11/09/2009
Date Data Arrived at EDR: 12/18/2009
Date Made Active in Reports: 02/10/2010
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/15/2010
Next Scheduled EDR Contact: 12/27/2010
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Site Listing

A listing of coal combustion waste landfills.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/20/2009
Date Data Arrived at EDR: 06/26/2009
Date Made Active in Reports: 07/08/2009
Number of Days to Update: 12

Source: Department of Health & Environment
Telephone: 785-296-1600
Last EDR Contact: 07/26/2010
Next Scheduled EDR Contact: 11/08/2010
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 07/21/2010
Next Scheduled EDR Contact: 11/01/2010
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/25/2010
Next Scheduled EDR Contact: 12/06/2010
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 04/30/2010
Date Data Arrived at EDR: 05/13/2010
Date Made Active in Reports: 06/21/2010
Number of Days to Update: 39

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 08/11/2010
Next Scheduled EDR Contact: 11/22/2010
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/19/2010
Date Made Active in Reports: 08/26/2010
Number of Days to Update: 38

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/30/2010
Next Scheduled EDR Contact: 12/13/2010
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 07/06/2010
Date Made Active in Reports: 07/26/2010
Number of Days to Update: 20

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/21/2010
Next Scheduled EDR Contact: 10/04/2010
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: Rextag Strategies Corp.

Telephone: (281) 769-2247

U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

EL DORADO WIND TOWER
105 WETLANDS DRIVE
EL DORADO, KS 67042

TARGET PROPERTY COORDINATES

Latitude (North):	37.79679 - 37° 47' 48.4"
Longitude (West):	96.85179 - 96° 51' 6.4"
Universal Tranverse Mercator:	Zone 14
UTM X (Meters):	689142.2
UTM Y (Meters):	4185237.2
Elevation:	1271 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	37096-G7 EL DORADO, KS
Most Recent Revision:	1979

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

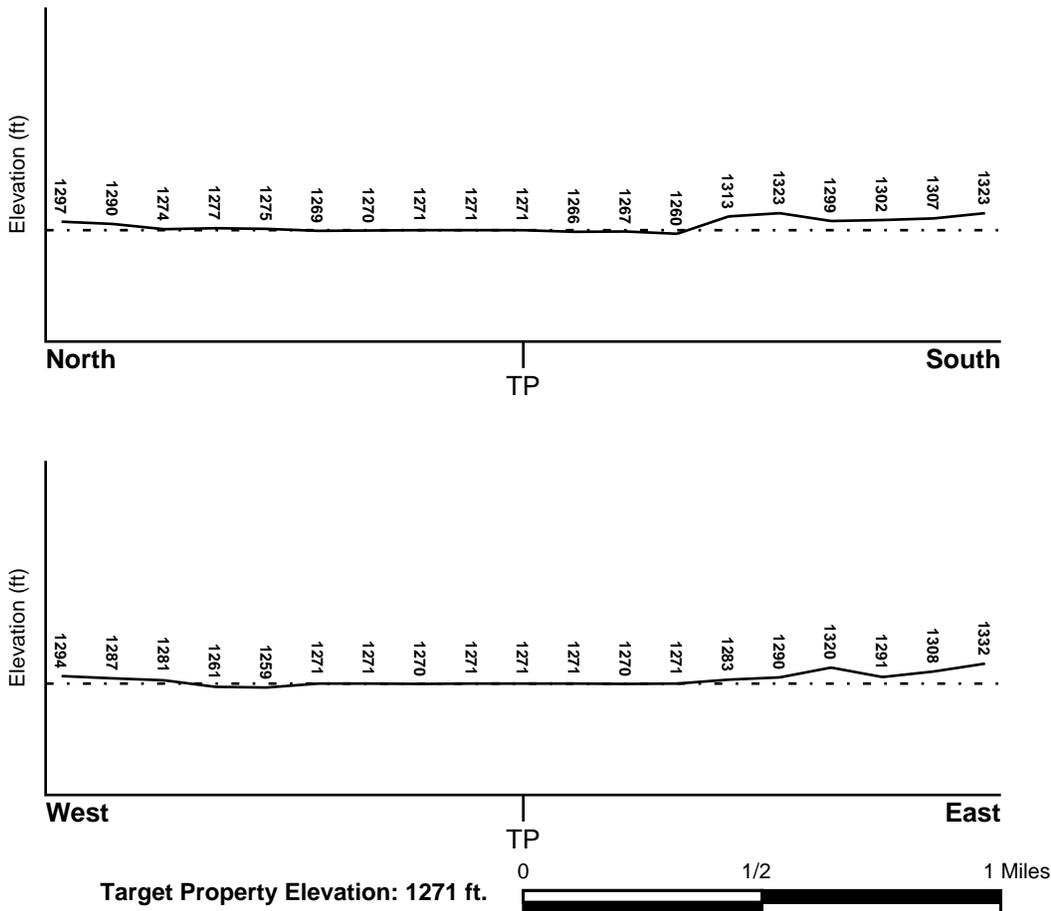
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u> BUTLER, KS	<u>FEMA Flood Electronic Data</u> YES - refer to the Overview Map and Detail Map
Flood Plain Panel at Target Property:	2000370180C - FEMA Q3 Flood data
Additional Panels in search area:	2000390003C - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> NOT AVAILABLE	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
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HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

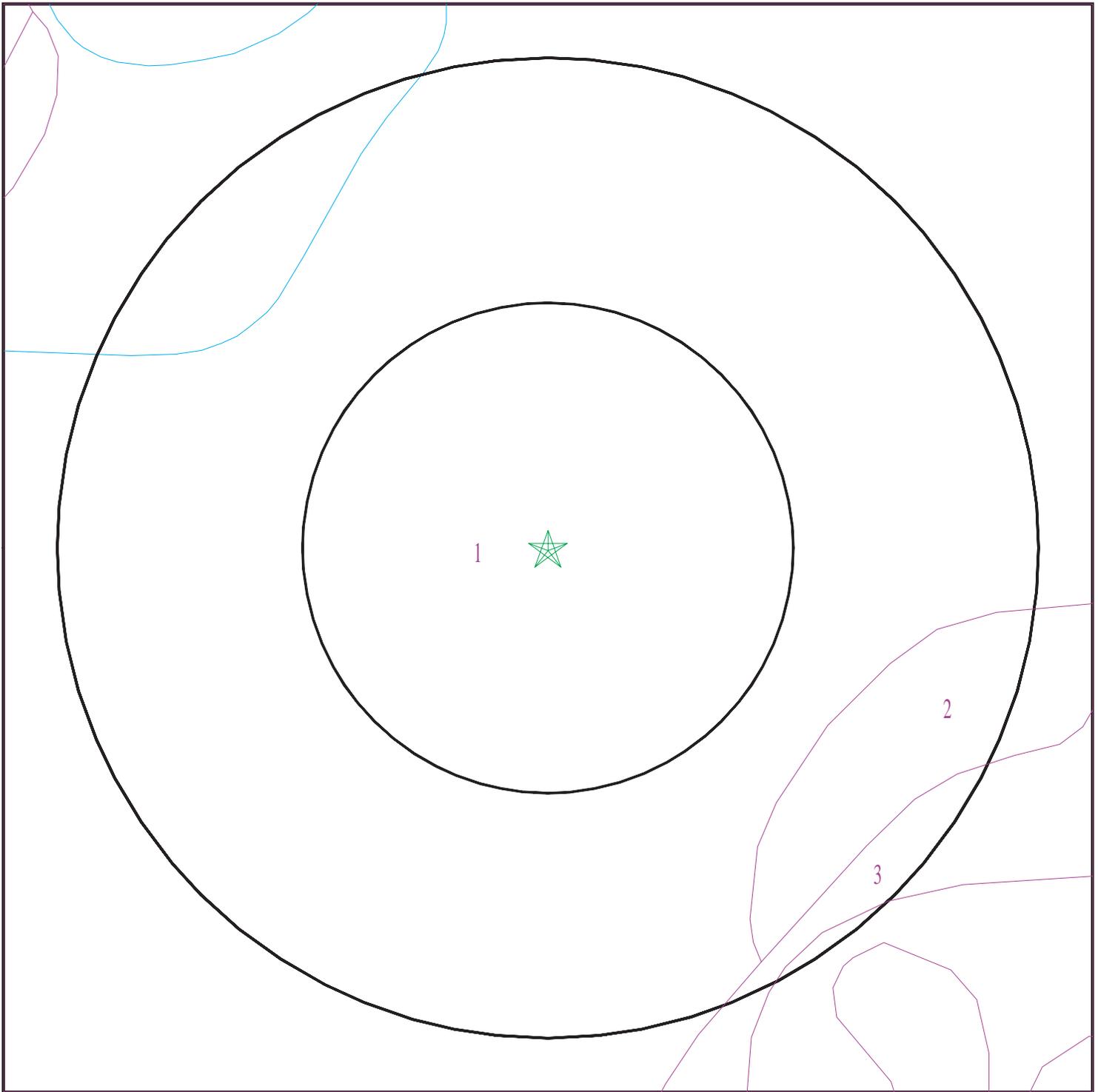
Era:	Paleozoic
System:	Permian
Series:	Wolfcampian Series
Code:	P1 (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2870159.2s



- ★ Target Property
- SSURGO Soil
- Water



SITE NAME: El Dorado Wind Tower
ADDRESS: 105 Wetlands Drive
El Dorado KS 67042
LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
CONTACT: Charles Arthur
INQUIRY #: 2870159.2s
DATE: September 15, 2010 5:21 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Verdigris

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6
2	7 inches	33 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6
3	33 inches	57 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 2

Soil Component Name: Brewer

Soil Surface Texture: silty clay loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	14 inches	20 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4.233 Min: 1.411	Max: 7.3 Min: 5.6
2	40 inches	65 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4.233 Min: 1.411	Max: 7.3 Min: 5.6
3	20 inches	40 inches	silty clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4.233 Min: 1.411	Max: 7.3 Min: 5.6
4	0 inches	14 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Elastic silt.	Max: 4.233 Min: 1.411	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 3

Soil Component Name: Vanoss

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6
2	7 inches	14 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6
3	14 inches	31 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6
4	31 inches	57 inches	silty clay loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 14.11 Min: 4.233	Max: 7.3 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Map ID: 4

Soil Component Name: Labette

Soil Surface Texture: unweathered bedrock

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 18 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	38 inches	42 inches	unweathered bedrock	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.411 Min: 0.4233	Max: 8.4 Min: 5.6
2	0 inches	12 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.411 Min: 0.4233	Max: 8.4 Min: 5.6
3	12 inches	18 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.411 Min: 0.4233	Max: 8.4 Min: 5.6
4	18 inches	29 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.411 Min: 0.4233	Max: 8.4 Min: 5.6
5	29 inches	38 inches	silty clay	Not reported	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.411 Min: 0.4233	Max: 8.4 Min: 5.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A2	USGS2687741	1/2 - 1 Mile East

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	KS600000084118	1/4 - 1/2 Mile East
A3	KS600000084119	1/2 - 1 Mile East
B4	KS600000084805	1/2 - 1 Mile NE
B5	KS600000084806	1/2 - 1 Mile NE
C6	KS600000083369	1/2 - 1 Mile WSW
C7	KS600000083370	1/2 - 1 Mile WSW
D8	KS600000084153	1/2 - 1 Mile West
D9	KS600000084146	1/2 - 1 Mile West
D10	KS600000084147	1/2 - 1 Mile West
D11	KS600000084144	1/2 - 1 Mile West
D12	KS600000084145	1/2 - 1 Mile West
D13	KS600000084148	1/2 - 1 Mile West
D14	KS600000084151	1/2 - 1 Mile West
D15	KS600000084152	1/2 - 1 Mile West
D16	KS600000084149	1/2 - 1 Mile West
D17	KS600000084150	1/2 - 1 Mile West
E18	KS600000084451	1/2 - 1 Mile West
E19	KS600000084450	1/2 - 1 Mile West
E20	KS600000084449	1/2 - 1 Mile West
E21	KS600000084454	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
E22	KS600000084453	1/2 - 1 Mile West
E23	KS600000084452	1/2 - 1 Mile West
24	KS600000083132	1/2 - 1 Mile SW
F25	KS600000083741	1/2 - 1 Mile WSW
F26	KS600000083742	1/2 - 1 Mile WSW
F27	KS600000083739	1/2 - 1 Mile WSW
F28	KS600000083740	1/2 - 1 Mile WSW
F29	KS600000083743	1/2 - 1 Mile WSW
F30	KS600000083746	1/2 - 1 Mile WSW
F31	KS600000083747	1/2 - 1 Mile WSW
F32	KS600000083744	1/2 - 1 Mile WSW
F33	KS600000083745	1/2 - 1 Mile WSW
G34	KS600000084621	1/2 - 1 Mile WNW
G35	KS600000084622	1/2 - 1 Mile WNW
H36	KS600000083373	1/2 - 1 Mile WSW
H37	KS600000083372	1/2 - 1 Mile WSW
H38	KS600000083371	1/2 - 1 Mile WSW
H39	KS600000083374	1/2 - 1 Mile WSW
H40	KS600000083377	1/2 - 1 Mile WSW
H41	KS600000083376	1/2 - 1 Mile WSW
H42	KS600000083375	1/2 - 1 Mile WSW
43	KS600000083131	1/2 - 1 Mile WSW
I44	KS600000084138	1/2 - 1 Mile West
I45	KS600000084139	1/2 - 1 Mile West
I46	KS600000084136	1/2 - 1 Mile West
I47	KS600000084137	1/2 - 1 Mile West
I48	KS600000084142	1/2 - 1 Mile West
I49	KS600000084143	1/2 - 1 Mile West
I50	KS600000084140	1/2 - 1 Mile West
I51	KS600000084141	1/2 - 1 Mile West
J52	KS600000084445	1/2 - 1 Mile West
J53	KS600000084446	1/2 - 1 Mile West
54	KS600000083738	1/2 - 1 Mile West
K55	KS600000085384	1/2 - 1 Mile NW
K56	KS600000085385	1/2 - 1 Mile NW
57	KS600000084620	1/2 - 1 Mile WNW
58	KS600000083368	1/2 - 1 Mile WSW
59	KS600000082762	1/2 - 1 Mile SW
60	KS600000084839	1/2 - 1 Mile WNW
61	KS600000083129	1/2 - 1 Mile WSW
L62	KS600000084441	1/2 - 1 Mile West
L63	KS600000084440	1/2 - 1 Mile West
L64	KS600000084442	1/2 - 1 Mile West
L65	KS600000084444	1/2 - 1 Mile West
L66	KS600000084443	1/2 - 1 Mile West
M67	KS600000085634	1/2 - 1 Mile NW
M68	KS600000085635	1/2 - 1 Mile NW
N69	KS600000083735	1/2 - 1 Mile West
N70	KS600000083736	1/2 - 1 Mile West
N71	KS600000083737	1/2 - 1 Mile West
O72	KS600000084836	1/2 - 1 Mile WNW
O73	KS600000084837	1/2 - 1 Mile WNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

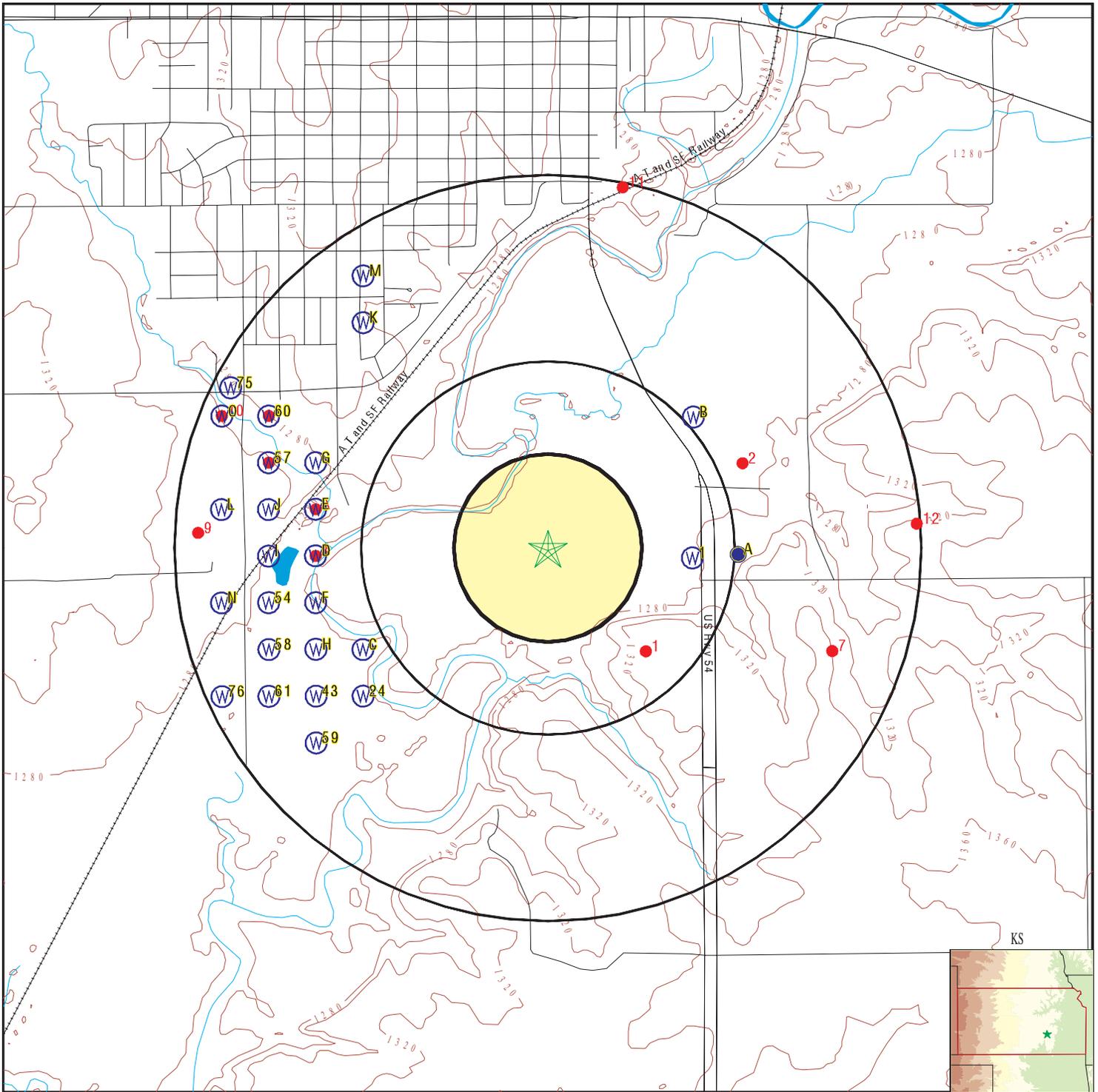
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
O74	KS600000084838	1/2 - 1 Mile WNW
75	KS600000085051	1/2 - 1 Mile WNW
76	KS600000083125	1/2 - 1 Mile WSW

OTHER STATE DATABASE INFORMATION

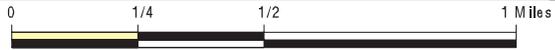
STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	KSOG60000165992	1/4 - 1/2 Mile SE
2	KSOG60000167940	1/2 - 1 Mile ENE
3	KSOG60000166855	1/2 - 1 Mile West
A4	KSOG60000167413	1/2 - 1 Mile West
A5	KSOG60000167412	1/2 - 1 Mile West
6	KSOG60000167949	1/2 - 1 Mile WNW
7	KSOG60000166000	1/2 - 1 Mile ESE
8	KSOG60000168348	1/2 - 1 Mile WNW
9	KSOG60000167081	1/2 - 1 Mile West
10	KSOG60000168344	1/2 - 1 Mile WNW
11	KSOG60000170100	1/2 - 1 Mile NNE
12	KSOG60000167178	1/2 - 1 Mile East

PHYSICAL SETTING SOURCE MAP - 2870159.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons



- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Oil, gas or related wells



SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.2s
 DATE: September 15, 2010 5:21 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1
East
1/4 - 1/2 Mile
Higher

KS WELLS KS600000084118

Well id:	360542	County:	Butler
Township:	26	Twn dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	SE SE SE
Longitude:	-96.84441	Latitude:	37.79639
Long lat t:	From PLSS	Owner:	Decker, Roger
Well use:	Lawn and Garden - domestic only		
Comple dat:	02-Jan-2005		
Status:	CONSTRUCTED	Other id:	Not Reported
Dwr number:	Not Reported		
Directions:	EI Dorado		
Well depth:	150	Elev:	Not Reported
Static dep:	40	Est yield:	25
Driller:	Charles Winter Well Drilling		

A2
East
1/2 - 1 Mile
Higher

FED USGS USGS2687741

Agency cd:	USGS	Site no:	374748096503201
Site name:	26S 05E 12CCC 01	EDR Site id:	USGS2687741
Latitude:	374748	Dec lat:	37.79668453
Longitude:	0965032	Coor meth:	M
Dec lon:	-96.84252983	Latlong datum:	NAD27
Coor accr:	T	District:	20
Dec latlong datum:	NAD83	County:	015
State:	20	Land net:	SWSWSWS12 T26S R05E 6
Country:	US	Map scale:	24000
Location map:	EL DORADO		
Altitude:	1285.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Upper Walnut River. Kansas. Area = 957 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	CST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	50.0	Hole depth:	Not Reported
Source of depth data:	memory		
Project number:	Not Reported		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1963-08-26
Water quality data end date:	1963-08-26	Water quality data count:	1
Ground water data begin date:	1963-08-01	Ground water data end date:	1963-08-01
Ground water data count:	1		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1963-08-01	29.40	

A3
East
1/2 - 1 Mile
Higher

KS WELLS KS600000084119

Well id:	5122	County:	Butler
Township:	26	Twn dir:	S
Range:	5	Range dir:	E
Section:	12	Spot:	SW SW SW
Longitude:	-96.84212	Latitude:	37.79639
Long lat t:	From PLSS	Owner:	Griggs, Sahra
Well use:	Domestic		
Comple dat:	24-Sep-1986		
Status:	RECONSTRUCTED	Other id:	Not Reported
Dwr number:	Not Reported		
Directions:	from E edge of El Dorado: 1 mi S		
Well depth:	40	Elev:	Not Reported
Static dep:	17	Est yield:	10
Driller:	Virgil C. Hogoboom, H&S Well Drlg Serv		

B4
NE
1/2 - 1 Mile
Higher

KS WELLS KS600000084805

Well id:	417530	County:	Butler
Township:	26	Twn dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	NE NE SE
Longitude:	-96.844364	Latitude:	37.801863
Long lat t:	From PLSS	Owner:	Jones, Randy D/Jones Cottle Co
Well use:	Feedlot/Livestock/Windmill		
Comple dat:	10-Jul-2007		
Status:	CONSTRUCTED	Other id:	Not Reported
Dwr number:	Not Reported		
Directions:	1756 SE Hwy 77, El Dorado		
Well depth:	130	Elev:	Not Reported
Static dep:	30	Est yield:	4.5
Driller:	Jerry Reiserer Well Drilling		

B5
NE
1/2 - 1 Mile
Higher

KS WELLS KS600000084806

Well id:	417704	County:	Butler
Township:	26	Twn dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	NE NE SE
Longitude:	-96.844364	Latitude:	37.801863
Long lat t:	From PLSS	Owner:	Jones, Randy D/ Jones Cattle C
Well use:	Feedlot/Livestock/Windmill		
Comple dat:	21-Jul-2007		
Status:	CONSTRUCTED	Other id:	Not Reported
Dwr number:	Not Reported		
Directions:	1756 SE Hwy 77, EIdorado		
Well depth:	100	Elev:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 30 Est yield: 3.5
 Driller: Jerry Reiserer Well Drilling

C6
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083369

Well id:	118175	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	14	Spot:	SW NW NW
Longitude:	-96.86053	Latitude:	37.79283
Long lat t:	From PLSS	Owner:	Texaco Refining and Marketing
Well use:	(unstated)/abandoned		
Comple dat:	18-Sep-1997		
Status:	PLUGGED	Other id:	W 13
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	33.9	Elev:	Not Reported
Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

C7
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083370

Well id:	118176	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	14	Spot:	SW NW NW
Longitude:	-96.86053	Latitude:	37.79283
Long lat t:	From PLSS	Owner:	Texaco Refining and Marketing
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Sep-1997		
Status:	PLUGGED	Other id:	W 14
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	36	Elev:	Not Reported
Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

D8
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084153

Well id:	118179	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Texaco Marketing and Refining
Well use:	Monitoring well/observation/piezometer		
Comple dat:	30-Sep-1997		
Status:	CONSTRUCTED	Other id:	MW 173
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	30	Elev:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

**D9
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084146

Well id:	5045	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 5
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	21.1	Elev:	1248.
Static dep:	9.8	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**D10
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084147

Well id:	5103	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 4
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	14.71	Elev:	1255.
Static dep:	5.66	Est yield:	10
Driller:	Layne-Christensen Co.		

**D11
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084144

Well id:	5034	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	27-Sep-1978		
Status:	CONSTRUCTED	Other id:	16
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	25.8	Elev:	1267

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	16.5	Est yield:	Not Reported
Driller:	Layne-Western		

**D12
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084145

Well id:	5042	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	10-Aug-1979		
Status:	CONSTRUCTED	Other id:	86
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	31	Elev:	1276.
Static dep:	22.7	Est yield:	Not Reported
Driller:	Layne-Western		

**D13
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084148

Well id:	5104	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 7
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	18.88	Elev:	1251.
Static dep:	8.12	Est yield:	15
Driller:	Layne-Christensen Co.		

**D14
West
1/2 - 1 Mile
Lower**

KS WELLS KS6000000084151

Well id:	5107	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 7
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	26.2	Elev:	1243.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 14.9 Est yield: Not Reported
 Driller: Layne-Christensen Co.

D15
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084152

Well id:	5108	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 6
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	23.2	Elev:	1246.
Static dep:	11.6	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

D16
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084149

Well id:	5105	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 4
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	15.2	Elev:	1254.
Static dep:	1.9	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

D17
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084150

Well id:	5106	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE SE SE
Longitude:	-96.86285	Latitude:	37.79647
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 5
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	18.17	Elev:	1251.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 7.87 Est yield: 10
 Driller: Layne-Christensen Co.

E18
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084451

Well id:	5044	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	26-Sep-1978		
Status:	CONSTRUCTED	Other id:	17
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	21.8	Elev:	1266.
Static dep:	12	Est yield:	Not Reported
Driller:	Layne-Western		

E19
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084450

Well id:	5035	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	12-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 3
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	12.92	Elev:	1257.
Static dep:	3.25	Est yield:	5
Driller:	Layne-Christensen Co.		

E20
West
1/2 - 1 Mile
Lower

KS WELLS KS6000000084449

Well id:	5033	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 2
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	12.5	Elev:	1257.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 2.83 Est yield: 5
 Driller: Layne-Christensen Co.

**E21
 West
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000084454

Well id:	5050	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 2
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	12.4	Elev:	1257.
Static dep:	5.7	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**E22
 West
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000084453

Well id:	5048	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	26-Sep-1978		
Status:	CONSTRUCTED	Other id:	18
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	18.8	Elev:	1263.
Static dep:	6.9	Est yield:	Not Reported
Driller:	Layne-Western		

**E23
 West
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000084452

Well id:	5046	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SE SE
Longitude:	-96.86285	Latitude:	37.79828
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 3
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	12.5	Elev:	1257.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 2.2 Est yield: Not Reported
 Driller: Layne-Christensen Co.

**24
SW
1/2 - 1 Mile
Lower**

KS WELLS KS600000083132

Well id:	118174	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	14	Spot:	NW SW NW
Longitude:	-96.86052	Latitude:	37.79102
Long lat t:	From PLSS	Owner:	Texaco Refining and Marketing
Well use:	(unstated)/abandoned		
Comple dat:	18-Sep-1997		
Status:	PLUGGED	Other id:	W 10
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	44.5	Elev:	Not Reported
Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

**F25
WSW
1/2 - 1 Mile
Lower**

KS WELLS KS600000083741

Well id:	5155	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	09-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 10
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	27	Elev:	1243
Static dep:	8.2	Est yield:	10
Driller:	Layne-Christensen Co.		

**F26
WSW
1/2 - 1 Mile
Lower**

KS WELLS KS600000083742

Well id:	5157	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	09-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 11
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	28.29	Elev:	1241.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 11.15 Est yield: 5
 Driller: Layne-Christensen Co.

F27
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083739

Well id: 5151 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NE NE
 Longitude: -96.86284 Latitude: 37.79465
 Long lat t: From PLSS Owner: Getty Refining and Marketing
 Well use: Recovery/Soil Vapor Extraction/Soil Ve
 Comple dat: 11-Mar-1981
 Status: CONSTRUCTED Other id: ER 8
 Dwr number: Not Reported
 Directions: from El Dorado: .5 mi S
 Well depth: 15.08 Elev: 1254.
 Static dep: 6.53 Est yield: 25
 Driller: Layne-Christensen Co.

F28
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083740

Well id: 5153 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NE NE
 Longitude: -96.86284 Latitude: 37.79465
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 17-Mar-1981
 Status: CONSTRUCTED Other id: OE 11
 Dwr number: Not Reported
 Directions: from El Dorado: .5 mi S
 Well depth: 31.2 Elev: 1238.
 Static dep: 13.1 Est yield: Not Reported
 Driller: Layne-Christensen Co.

F29
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083743

Well id: 5159 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NE NE
 Longitude: -96.86284 Latitude: 37.79465
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 17-Mar-1981
 Status: CONSTRUCTED Other id: OE 10
 Dwr number: Not Reported
 Directions: from El Dorado: .5 mi S
 Well depth: 28 Elev: 1242

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	7.7	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**F30
WSW
1/2 - 1 Mile
Lower**

KS WELLS KS6000000083746

Well id:	5169	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing
Well use:	Monitoring well/observation/piezometer		
Comple dat:	17-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 8
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	15.6	Elev:	1254.
Static dep:	6.4	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**F31
WSW
1/2 - 1 Mile
Lower**

KS WELLS KS6000000083747

Well id:	5171	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	17-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 9
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	18.1	Elev:	1251.
Static dep:	9	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**F32
WSW
1/2 - 1 Mile
Lower**

KS WELLS KS6000000083744

Well id:	5161	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing
Well use:	Monitoring well/observation/piezometer		
Comple dat:	27-Sep-1978		
Status:	CONSTRUCTED	Other id:	15
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	49.7	Elev:	1267.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 13.6 Est yield: Not Reported
 Driller: Layne-Western

**F33
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083745

Well id:	5163	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE NE NE
Longitude:	-96.86284	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 9
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	16	Elev:	1254
Static dep:	7.15	Est yield:	30
Driller:	Layne-Christensen Co.		

**G34
 WNW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000084621

Well id:	5095	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE NE SE
Longitude:	-96.86284	Latitude:	37.80009
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Recovery/Soil Vapor Extraction/Soil Ve		
Comple dat:	11-Mar-1981		
Status:	CONSTRUCTED	Other id:	ER 1
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	9.87	Elev:	1260.
Static dep:	2.91	Est yield:	5
Driller:	Layne-Christensen Co.		

**G35
 WNW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000084622

Well id:	5096	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SE NE SE
Longitude:	-96.86284	Latitude:	37.80009
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	19-Mar-1981		
Status:	CONSTRUCTED	Other id:	OE 1
Dwr number:	Not Reported		
Directions:	from El Dorado: .5 mi S		
Well depth:	9.7	Elev:	1260.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 2.3 Est yield: Not Reported
 Driller: Layne-Christensen Co.

**H36
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083373

Well id: 5133 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 27-Sep-1978
 Status: CONSTRUCTED Other id: 14A
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 32.5 Elev: 1270.
 Static dep: 23.2 Est yield: Not Reported
 Driller: Layne-Western

**H37
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083372

Well id: 5131 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 05-Oct-1978
 Status: CONSTRUCTED Other id: 11A
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 29 Elev: 1267.
 Static dep: 20.2 Est yield: Not Reported
 Driller: Layne-Western

**H38
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083371

Well id: 5129 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Getty Refining and Marketing
 Well use: Monitoring well/observation/piezometer
 Comple dat: 10-Aug-1979
 Status: CONSTRUCTED Other id: 88
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 31 Elev: 1267

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 19.6 Est yield: Not Reported
 Driller: Layne-Western

**H39
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083374

Well id: 5135 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 05-Oct-1978
 Status: CONSTRUCTED Other id: 11
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 33.9 Elev: 1267.
 Static dep: 19.9 Est yield: Not Reported
 Driller: Layne-Western

**H40
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083377

Well id: 118172 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Texaco Refining and Marketing,
 Well use: (unstated)/abandoned
 Comple dat: 18-Sep-1997
 Status: PLUGGED Other id: W 11
 Dwr number: Not Reported
 Directions: Not Reported
 Well depth: 33.6 Elev: Not Reported
 Static dep: Not Reported Est yield: Not Reported
 Driller: Layne Western

**H41
 WSW
 1/2 - 1 Mile
 Lower**

KS WELLS KS6000000083376

Well id: 5143 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: SE NE NE
 Longitude: -96.86283 Latitude: 37.79284
 Long lat t: From PLSS Owner: Getty Refining and Marketing
 Well use: Monitoring well/observation/piezometer
 Comple dat: 04-Oct-1978
 Status: CONSTRUCTED Other id: 14
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 37.4 Elev: 1270.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	22.9	Est yield:	Not Reported
Driller:	Layne-Western		

H42
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083375

Well id:	5141	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	SE NE NE
Longitude:	-96.86283	Latitude:	37.79284
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing
Well use:	Monitoring well/observation/piezometer		
Comple dat:	10-Aug-1979		
Status:	CONSTRUCTED	Other id:	87
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	23.6	Elev:	1268.
Static dep:	19.1	Est yield:	Not Reported
Driller:	Layne-Western		

43
WSW
1/2 - 1 Mile
Lower

KS WELLS KS6000000083131

Well id:	5124	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE SE NE
Longitude:	-96.86282	Latitude:	37.79102
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	09-Oct-1978		
Status:	CONSTRUCTED	Other id:	9
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	46	Elev:	1266.
Static dep:	20	Est yield:	Not Reported
Driller:	Layne-Western		

I44
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084138

Well id:	5071	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	16-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 5
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	20	Elev:	1268

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 10.6 Est yield: Not Reported
 Driller: Layne-Western

I45
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084139

Well id:	5073	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	16-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 2
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	23.5	Elev:	1267.
Static dep:	11.8	Est yield:	Not Reported
Driller:	Layne-Western		

I46
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084136

Well id:	5061	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	17-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 8
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	23	Elev:	1267.
Static dep:	12.7	Est yield:	Not Reported
Driller:	Layne-Western		

I47
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084137

Well id:	5069	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	16-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 4
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	21.7	Elev:	1267.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 12.4 Est yield: Not Reported
 Driller: Layne-Western

I48
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084142

Well id:	5111	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	16-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 7
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	22.2	Elev:	1267.
Static dep:	9.2	Est yield:	Not Reported
Driller:	Layne-Western		

I49
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084143

Well id:	5112	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	17-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 1
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	22.5	Elev:	1267.
Static dep:	11.2	Est yield:	Not Reported
Driller:	Layne-Western		

I50
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084140

Well id:	5075	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW SE SE
Longitude:	-96.86515	Latitude:	37.79646
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Test hole/well		
Comple dat:	17-Jul-1979		
Status:	CONSTRUCTED	Other id:	TW
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	21.4	Elev:	1267.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 12 Est yield: .5
 Driller: Layne-Western

I51
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084141

Well id: 5110 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 10 Spot: SW SE SE
 Longitude: -96.86515 Latitude: 37.79646
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 17-Jul-1979
 Status: CONSTRUCTED Other id: OB 9
 Dwr number: .
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 23 Elev: 1267
 Static dep: 14.3 Est yield: Not Reported
 Driller: Layne-Western

J52
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084445

Well id: 5074 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 10 Spot: NW SE SE
 Longitude: -96.86515 Latitude: 37.79827
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 10-Aug-1979
 Status: CONSTRUCTED Other id: 85
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 27 Elev: 1277.
 Static dep: 14.3 Est yield: Not Reported
 Driller: Layne-Western

J53
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084446

Well id: 5094 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 10 Spot: NW SE SE
 Longitude: -96.86515 Latitude: 37.79827
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 17-Jul-1979
 Status: CONSTRUCTED Other id: OB 3
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 21.8 Elev: 1266.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	9.2	Est yield:	Not Reported
Driller:	Layne-Western		

**54
West
1/2 - 1 Mile
Higher**

KS WELLS KS6000000083738

Well id:	5154	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NW NE NE
Longitude:	-96.86514	Latitude:	37.79465
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	24-Jul-1979		
Status:	CONSTRUCTED	Other id:	OB 6
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	18	Elev:	1266.
Static dep:	9.5	Est yield:	Not Reported
Driller:	Layne-Western		

**K55
NW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000085384

Well id:	5120	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	NW SW NW
Longitude:	-96.86052	Latitude:	37.80553
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	04-Oct-1978		
Status:	CONSTRUCTED	Other id:	10
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	48.3	Elev:	1268
Static dep:	21.6	Est yield:	Not Reported
Driller:	Layne-Western		

**K56
NW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000085385

Well id:	5121	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	NW SW NW
Longitude:	-96.86052	Latitude:	37.80553
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	04-Oct-1978		
Status:	CONSTRUCTED	Other id:	10A
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	29	Elev:	1268

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	22.4	Est yield:	Not Reported
Driller:	Layne-Western		

57
WNW
1/2 - 1 Mile
Higher

KS WELLS KS6000000084620

Well id:	5053	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	SW NE SE
Longitude:	-96.86515	Latitude:	37.80009
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	26-Sep-1978		
Status:	CONSTRUCTED	Other id:	38
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	29.1	Elev:	1278.
Static dep:	8.9	Est yield:	Not Reported
Driller:	Layne-Western		

58
WSW
1/2 - 1 Mile
Higher

KS WELLS KS6000000083368

Well id:	5138	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	SW NE NE
Longitude:	-96.86513	Latitude:	37.79283
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	02-Oct-1978		
Status:	CONSTRUCTED	Other id:	12
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	21.8	Elev:	1265.
Static dep:	10.7	Est yield:	Not Reported
Driller:	Layne-Western		

59
SW
1/2 - 1 Mile
Lower

KS WELLS KS6000000082762

Well id:	118173	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	SE SE NE
Longitude:	-96.86282	Latitude:	37.7892
Long lat t:	From PLSS	Owner:	Texaco Refining and Marketing,
Well use:	(unstated)/abandoned		
Comple dat:	19-Sep-1997		
Status:	PLUGGED	Other id:	W 9
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	23.7	Elev:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

60
WNW
1/2 - 1 Mile
Higher

KS WELLS KS6000000084839

Well id:	5066	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NW NE SE
Longitude:	-96.86514	Latitude:	37.8019
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	26-Sep-1978		
Status:	CONSTRUCTED	Other id:	40
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	30.6	Elev:	1273.
Static dep:	6.9	Est yield:	Not Reported
Driller:	Layne-Western		

61
WSW
1/2 - 1 Mile
Higher

KS WELLS KS6000000083129

Well id:	5127	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NW SE NE
Longitude:	-96.86513	Latitude:	37.79101
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	03-Oct-1978		
Status:	CONSTRUCTED	Other id:	8
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	29.7	Elev:	1266.
Static dep:	16.7	Est yield:	Not Reported
Driller:	Layne-Western		

L62
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000084441

Well id:	5064	County:	Butler
Township:	26	Tw n dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW SE
Longitude:	-96.86745	Latitude:	37.79827
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Sep-1978		
Status:	CONSTRUCTED	Other id:	34
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	40.2	Elev:	1289.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 5.3 Est yield: Not Reported
 Driller: Layne-Western

**L63
West
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084440

Well id:	5052	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW SE
Longitude:	-96.86745	Latitude:	37.79827
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Sep-1978		
Status:	CONSTRUCTED	Other id:	35
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	51.8	Elev:	1293.
Static dep:	8.5	Est yield:	Not Reported
Driller:	Layne-Western		

**L64
West
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084442

Well id:	5078	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW SE
Longitude:	-96.86745	Latitude:	37.79827
Long lat t:	From PLSS	Owner:	Texaco Refinery
Well use:	Monitoring well/observation/piezometer		
Comple dat:	12-Jan-1992		
Status:	CONSTRUCTED	Other id:	MW 159
Dwr number:	Not Reported		
Directions:	Texaco Refinery, El Dorado		
Well depth:	21	Elev:	Not Reported
Static dep:	10	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**L65
West
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084444

Well id:	5080	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW SE
Longitude:	-96.86745	Latitude:	37.79827
Long lat t:	From PLSS	Owner:	Texaco Refinery
Well use:	Monitoring well/observation/piezometer		
Comple dat:	11-Jan-1992		
Status:	CONSTRUCTED	Other id:	MW 158
Dwr number:	Not Reported		
Directions:	Texaco Refinery, El Dorado		
Well depth:	21	Elev:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	10	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**L66
West
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084443

Well id:	5079	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW SE
Longitude:	-96.86745	Latitude:	37.79827
Long lat t:	From PLSS	Owner:	Texaco Refinery
Well use:	Monitoring well/observation/piezometer		
Comple dat:	11-Jan-1992		
Status:	CONSTRUCTED	Other id:	MW 160
Dwr number:	Not Reported		
Directions:	Texaco Refinery, El Dorado		
Well depth:	20.5	Elev:	Not Reported
Static dep:	9.5	Est yield:	Not Reported
Driller:	Layne-Christensen Co.		

**M67
NW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000085634

Well id:	5118	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	SW NW NW
Longitude:	-96.86052	Latitude:	37.80735
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	04-Oct-1978		
Status:	CONSTRUCTED	Other id:	13A
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	29	Elev:	1268.
Static dep:	22.6	Est yield:	Not Reported
Driller:	Layne-Western		

**M68
NW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000085635

Well id:	5119	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	11	Spot:	SW NW NW
Longitude:	-96.86052	Latitude:	37.80735
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	04-Oct-1978		
Status:	CONSTRUCTED	Other id:	13
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	33.9	Elev:	1268.

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep: 21.4 Est yield: Not Reported
 Driller: Layne-Western

N69
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000083735

Well id: 5165 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NW NE
 Longitude: -96.86745 Latitude: 37.79464
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 25-Sep-1978
 Status: CONSTRUCTED Other id: 27
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 44.9 Elev: 1281.
 Static dep: 12.8 Est yield: Not Reported
 Driller: Layne-Western

N70
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000083736

Well id: 5167 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NW NE
 Longitude: -96.86745 Latitude: 37.79464
 Long lat t: From PLSS Owner: Getty Refining and Marketing C
 Well use: Monitoring well/observation/piezometer
 Comple dat: 25-Sep-1978
 Status: CONSTRUCTED Other id: 27A
 Dwr number: Not Reported
 Directions: 1401 S Douglas Rd, SW corner of town, El Dorado
 Well depth: 31 Elev: 1281.
 Static dep: 11.6 Est yield: Not Reported
 Driller: Layne-Western

N71
West
1/2 - 1 Mile
Higher

KS WELLS KS6000000083737

Well id: 118177 County: Butler
 Township: 26 Twn dir: S
 Range: 5 Range dir: E
 Section: 15 Spot: NE NW NE
 Longitude: -96.86745 Latitude: 37.79464
 Long lat t: From PLSS Owner: Texaco Refining and Marketing,
 Well use: Monitoring well/observation/piezometer
 Comple dat: 18-Sep-1997
 Status: PLUGGED Other id: W 27
 Dwr number: Not Reported
 Directions: Not Reported
 Well depth: 8.5 Elev: Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

**O72
WNW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084836

Well id:	5039	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE NW SE
Longitude:	-96.86743	Latitude:	37.8019
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	18-Sep-1978		
Status:	CONSTRUCTED	Other id:	37
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	43.4	Elev:	1284.
Static dep:	1.9	Est yield:	Not Reported
Driller:	Layne-Western		

**O73
WNW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084837

Well id:	118180	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE NW SE
Longitude:	-96.86743	Latitude:	37.8019
Long lat t:	From PLSS	Owner:	Texaco Marketing and Refining
Well use:	Monitoring well/observation/piezometer		
Comple dat:	30-Sep-1997		
Status:	CONSTRUCTED	Other id:	MW 172
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	19	Elev:	Not Reported
Static dep:	Not Reported	Est yield:	Not Reported
Driller:	Layne Western		

**O74
WNW
1/2 - 1 Mile
Higher**

KS WELLS KS6000000084838

Well id:	118181	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE NW SE
Longitude:	-96.86743	Latitude:	37.8019
Long lat t:	From PLSS	Owner:	Texaco Marketing and Refining
Well use:	Monitoring well/observation/piezometer		
Comple dat:	29-Sep-1997		
Status:	CONSTRUCTED	Other id:	MW 171
Dwr number:	Not Reported		
Directions:	Not Reported		
Well depth:	20	Elev:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Static dep:	9	Est yield:	Not Reported
Driller:	Layne Western		

75
WNW
1/2 - 1 Mile
Higher

KS WELLS KS6000000085051

Well id:	394816	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	10	Spot:	NE SW NE
Longitude:	-96.867	Latitude:	37.803
Long lat t:	GPS	Owner:	Shell Oil Products
Well use:	Monitoring well/observation/piezometer		
Comple dat:	01-Oct-2006		
Status:	CONSTRUCTED	Other id:	MW 179
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW El Dorado		
Well depth:	26	Elev:	1279
Static dep:	1.83	Est yield:	Not Reported
Driller:	Talon/LPE		

76
WSW
1/2 - 1 Mile
Higher

KS WELLS KS6000000083125

Well id:	5160	County:	Butler
Township:	26	Twon dir:	S
Range:	5	Range dir:	E
Section:	15	Spot:	NE SW NE
Longitude:	-96.86742	Latitude:	37.791
Long lat t:	From PLSS	Owner:	Getty Refining and Marketing C
Well use:	Monitoring well/observation/piezometer		
Comple dat:	03-Oct-1978		
Status:	CONSTRUCTED	Other id:	7
Dwr number:	Not Reported		
Directions:	1401 S Douglas Rd, SW corner of town, El Dorado		
Well depth:	69.8	Elev:	1271
Static dep:	10	Est yield:	Not Reported
Driller:	Layne-Western		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
SE
1/4 - 1/2 Mile

OIL_GAS KSOG60000165992

Kid:	1006759438	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	75199		
Field name:	Not Reported		
Field kid:	0		
Lease name:	ANDERSON	Well name:	1
Well class:	Plugged and Abandoned		
Operator n:	REX & MORRIS DRILLING CO.		
Operator k:	0		
Latitude:	37.79276		
Longitude:	-96.84669		
Longitud 2:	QUARTER_CALLS	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	14	Subdivisio:	NE
Subdivis 1:	NE	Subdivis 2:	SW
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	0	Feet east :	0
Reference :	Not Reported	Rotary tot:	3063
Status:	D&A	Spud date:	Not Reported
Permit dat:	Not Reported	Completion:	Not Reported
Api number:	15-015-75199	Plug date:	10/01/1953
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000165992		

2
ENE
1/2 - 1 Mile

OIL_GAS KSOG60000167940

Kid:	1002888092	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	136		
Field name:	SMOCK-SLUSS		
Field kid:	1000146997		
Lease name:	KASSEBAUM	Well name:	1
Well class:	Plugged and Abandoned		
Operator n:	MORRIS J E ETAL		
Operator k:	0		
Latitude:	37.80007		
Longitude:	-96.84196		
Longitud 2:	FOOTAGES	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	12	Subdivisio:	SW
Subdivis 1:	NW	Subdivis 2:	SW
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	1635	Feet east :	-4860
Reference :	SE	Rotary tot:	2780
Status:	D&A	Spud date:	02/24/1959

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Permit dat:	Not Reported	Completion:	03/04/1959
Api number:	15-015-00136	Plug date:	02/28/1959
Elevation1:	1285		
Elevatio 1:	1278		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167940		

3
West
1/2 - 1 Mile

OIL_GAS KSOG60000166855

Kid:	1006460886		
State code:	15	County cod:	15
Api well n:	0	Api workov:	Not Reported
Field name:	UNKNOWN		
Field kid:	0		
Lease name:	F11	Well name:	B-16
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.796467		
Longitude:	-96.862844		
Longitud 2:	QUARTER_CALLS	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	10	Subdivisio:	SE
Subdivis 1:	SE	Subdivis 2:	SE
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	0	Feet east :	0
Reference :	Not Reported	Rotary tot:	0
Status:	OTHER	Spud date:	Not Reported
Permit dat:	Not Reported	Completion:	Not Reported
Api number:	Not Reported	Plug date:	Not Reported
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000166855		

A4
West
1/2 - 1 Mile

OIL_GAS KSOG60000167413

Kid:	1006460887		
State code:	15	County cod:	15
Api well n:	0	Api workov:	Not Reported
Field name:	UNKNOWN		
Field kid:	0		
Lease name:	E10	Well name:	B-17
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.798281		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude:	-96.862842	Principal :	6
Longitud 2:	QUARTER_CALLS	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	10	Subdivis 2:	NE
Subdivis 1:	SE	Spot:	Not Reported
Subdivis 3:	Not Reported	Feet east :	0
Feet north:	0	Rotary tot:	0
Reference :	Not Reported	Spud date:	Not Reported
Status:	OTHER	Completion:	Not Reported
Permit dat:	Not Reported	Plug date:	Not Reported
Api number:	Not Reported		
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167413		

**A5
West
1/2 - 1 Mile**

OIL_GAS KSOG60000167412

Kid:	1006460888	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	0		
Field name:	UNKNOWN	Well name:	B-18
Field kid:	0		
Lease name:	D11		
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.798281		
Longitude:	-96.862842	Principal :	6
Longitud 2:	QUARTER_CALLS	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	10	Subdivis 2:	NE
Subdivis 1:	SE	Spot:	Not Reported
Subdivis 3:	Not Reported	Feet east :	0
Feet north:	0	Rotary tot:	0
Reference :	Not Reported	Spud date:	Not Reported
Status:	OTHER	Completion:	Not Reported
Permit dat:	Not Reported	Plug date:	Not Reported
Api number:	Not Reported		
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167412		

**6
WNW
1/2 - 1 Mile**

OIL_GAS KSOG60000167949

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Kid:	1006460896	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	0		
Field name:	UNKNOWN		
Field kid:	0		
Lease name:	C10	Well name:	B-38
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.800092		
Longitude:	-96.86514		
Longitud 2:	QUARTER_CALLS	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	10	Subdivisio:	SE
Subdivis 1:	NE	Subdivis 2:	SW
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	0	Feet east :	0
Reference :	Not Reported	Rotary tot:	0
Status:	OTHER	Spud date:	Not Reported
Permit dat:	Not Reported	Completion:	Not Reported
Api number:	Not Reported	Plug date:	Not Reported
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167949		

7

ESE

1/2 - 1 Mile

OIL_GAS

KSOG60000166000

Kid:	1002889445	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	20023		
Field name:	SMOCK-SLUSS		
Field kid:	1000146997		
Lease name:	SHUMAN	Well name:	1
Well class:	Plugged and Abandoned		
Operator n:	PETROLEUM MANAGEMENT INC		
Operator k:	1027997354		
Latitude:	37.792772		
Longitude:	-96.837572		
Longitud 2:	QUARTER_CALLS	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	13	Subdivisio:	NW
Subdivis 1:	NE	Subdivis 2:	SW
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	0	Feet east :	0
Reference :	Not Reported	Rotary tot:	2770
Status:	D&A	Spud date:	04/22/1967

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Permit dat:	04/21/1967	Completion:	04/28/1967
Api number:	15-015-20023	Plug date:	04/30/1967
Elevation1:	1340		
Elevatio 1:	1335		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000166000		

8

WNW

1/2 - 1 Mile

OIL_GAS

KSOG60000168348

Kid:	1006460898		
State code:	15	County cod:	15
Api well n:	0	Api workov:	Not Reported
Field name:	UNKNOWN		
Field kid:	0		
Lease name:	B9	Well name:	B-40
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.801907		
Longitude:	-96.865137		
Longitud 2:	QUARTER_CALLS	Principal :	6
Township:	26	Township d:	S
Range:	5	Range dire:	E
Section:	10	Subdivisio:	SE
Subdivis 1:	NE	Subdivis 2:	NW
Subdivis 3:	Not Reported	Spot:	Not Reported
Feet north:	0	Feet east :	0
Reference :	Not Reported	Rotary tot:	0
Status:	OTHER	Spud date:	Not Reported
Permit dat:	Not Reported	Completion:	Not Reported
Api number:	Not Reported	Plug date:	Not Reported
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000168348		

9

West

1/2 - 1 Mile

OIL_GAS

KSOG60000167081

Kid:	1006460893		
State code:	15	County cod:	15
Api well n:	0	Api workov:	Not Reported
Field name:	UNKNOWN		
Field kid:	0		
Lease name:	C8	Well name:	B-35
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.797362		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Longitude:	-96.868597	Principal :	6
Longitud 2:	QUARTER_CALLS	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	10	Subdivis 2:	Not Reported
Subdivis 1:	SW	Spot:	C
Subdivis 3:	Not Reported	Feet east :	0
Feet north:	0	Rotary tot:	0
Reference :	Not Reported	Spud date:	Not Reported
Status:	OTHER	Completion:	Not Reported
Permit dat:	Not Reported	Plug date:	Not Reported
Api number:	Not Reported		
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167081		

**10
WNW
1/2 - 1 Mile**

OIL_GAS KSOG60000168344

Kid:	1006460895	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	0		
Field name:	UNKNOWN	Well name:	B-37
Field kid:	0		
Lease name:	B8		
Well class:	Not Reported		
Operator n:	GETTY		
Operator k:	0		
Latitude:	37.801903		
Longitude:	-96.867437	Principal :	6
Longitud 2:	QUARTER_CALLS	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	10	Subdivis 2:	NE
Subdivis 1:	NW	Spot:	Not Reported
Subdivis 3:	Not Reported	Feet east :	0
Feet north:	0	Rotary tot:	0
Reference :	Not Reported	Spud date:	Not Reported
Status:	OTHER	Completion:	Not Reported
Permit dat:	Not Reported	Plug date:	Not Reported
Api number:	Not Reported		
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000168344		

**11
NNE
1/2 - 1 Mile**

OIL_GAS KSOG60000170100

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Kid:	1027629349	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	19139		
Field name:	Not Reported	Well name:	Not Reported
Field kid:	0		
Lease name:	PUBLIC R O W		
Well class:	Plugged and Abandoned		
Operator n:	Not Reported		
Operator k:	1027998145		
Latitude:	37.81079		
Longitude:	-96.84782	Principal :	Not Reported
Longitud 2:	FOOTAGES	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	2	Subdivis 2:	Not Reported
Subdivis 1:	Not Reported	Spot:	Not Reported
Subdivis 3:	Not Reported	Feet east :	-1350
Feet north:	260	Rotary tot:	300
Reference :	SE	Spud date:	Not Reported
Status:	OTHER-P&A	Completion:	Not Reported
Permit dat:	Not Reported	Plug date:	01/03/2003
Api number:	15-015-19139		
Elevation1:	0		
Elevatio 1:	0		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000170100		

**12
East
1/2 - 1 Mile**

OIL_GAS KSOG60000167178

Kid:	1002888422	County cod:	15
State code:	15	Api workov:	Not Reported
Api well n:	459		
Field name:	UNNAMED	Well name:	1
Field kid:	0		
Lease name:	KASSEBAUM		
Well class:	Plugged and Abandoned		
Operator n:	SACO OIL ETAL		
Operator k:	0		
Latitude:	37.79772		
Longitude:	-96.83344	Principal :	6
Longitud 2:	FOOTAGES	Township d:	S
Township:	26	Range dire:	E
Range:	5	Subdivisio:	SE
Section:	12	Subdivis 2:	W2
Subdivis 1:	SW	Spot:	Not Reported
Subdivis 3:	Not Reported	Feet east :	-2400
Feet north:	780	Rotary tot:	2766
Reference :	SE	Spud date:	07/17/1950
Status:	D&A		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Permit dat:	Not Reported	Completion:	08/09/1950
Api number:	15-015-00459	Plug date:	08/31/1950
Elevation1:	1334		
Elevatio 1:	1332		
Elevatio 2:	0		
Producing :	Not Reported		
Site id:	KSOG60000167178		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: KS Radon

Radon Test Results

County	Total Sites	Avg. (pCi/L)	Max.	> 4.0 pCi/L
BUTLER	187	3.77	32.1	50

Federal EPA Radon Zone for BUTLER County: 2

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 67042

Number of sites tested: 5

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.000 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.540 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Kansas Water Well Completion Records Database

Source: Kansas Geological Survey

Telephone: 913-864-3965

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Location Database Listing

Source: Kansas Geological Survey

Telephone: 785-864-3965

RADON

State Database: KS Radon

Source: Department of Health & Environment

Telephone: 785-296-1500

Kansas Indoor Radon Measurements

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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El Dorado Wind Tower

105 Wetlands Drive
El Dorado, KS 67042

Inquiry Number: 2870159.4
September 16, 2010

The EDR Aerial Photo Decade Package

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Date EDR Searched Historical Sources:

Aerial Photography September 16, 2010

Target Property:

105 Wetlands Drive

El Dorado, KS 67042

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
1960	Aerial Photograph. Scale: 1"=500'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: April 05, 1960	EDR
1978	Aerial Photograph. Scale: 1"=750'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: March 21, 1978	EDR
1981	Aerial Photograph. Scale: 1"=1000'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: September 19, 1981	EDR
1986	Aerial Photograph. Scale: 1"=1000'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: June 13, 1986	EDR
1991	Aerial Photograph. Scale: 1"=750'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: October 02, 1991	EDR
1999	Aerial Photograph. Scale: 1"=750'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: April 12, 1999	EDR
2002	Aerial Photograph. Scale: 1"=750'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: April 09, 2002	EDR
2006	Aerial Photograph. Scale: 1"=604'	Panel #: 37096-G7, El Dorado, KS;/Flight Date: January 01, 2006	EDR



INQUIRY #: 2870159.4

YEAR: 1960

 = 500'



 Environmental Data Resources Inc.





INQUIRY #: 2870159.4

YEAR: 1978

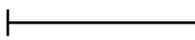
 = 750'





INQUIRY #: 2870159.4

YEAR: 1981

 = 1000'





INQUIRY #: 2870159.4

YEAR: 1986

 = 1000'





INQUIRY #: 2870159.4

YEAR: 1991

 = 750'





INQUIRY #: 2870159.4

YEAR: 1999

| = 750'

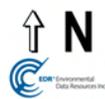




INQUIRY #: 2870159.4

YEAR: 2002

 = 750'





INQUIRY #: 2870159.4

YEAR: 2006

Scale: = 604'





El Dorado Wind Tower

105 Wetlands Drive
El Dorado, KS 67042

Inquiry Number: 2870159.3
September 15, 2010

EDR Historical Topographic Map Report

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

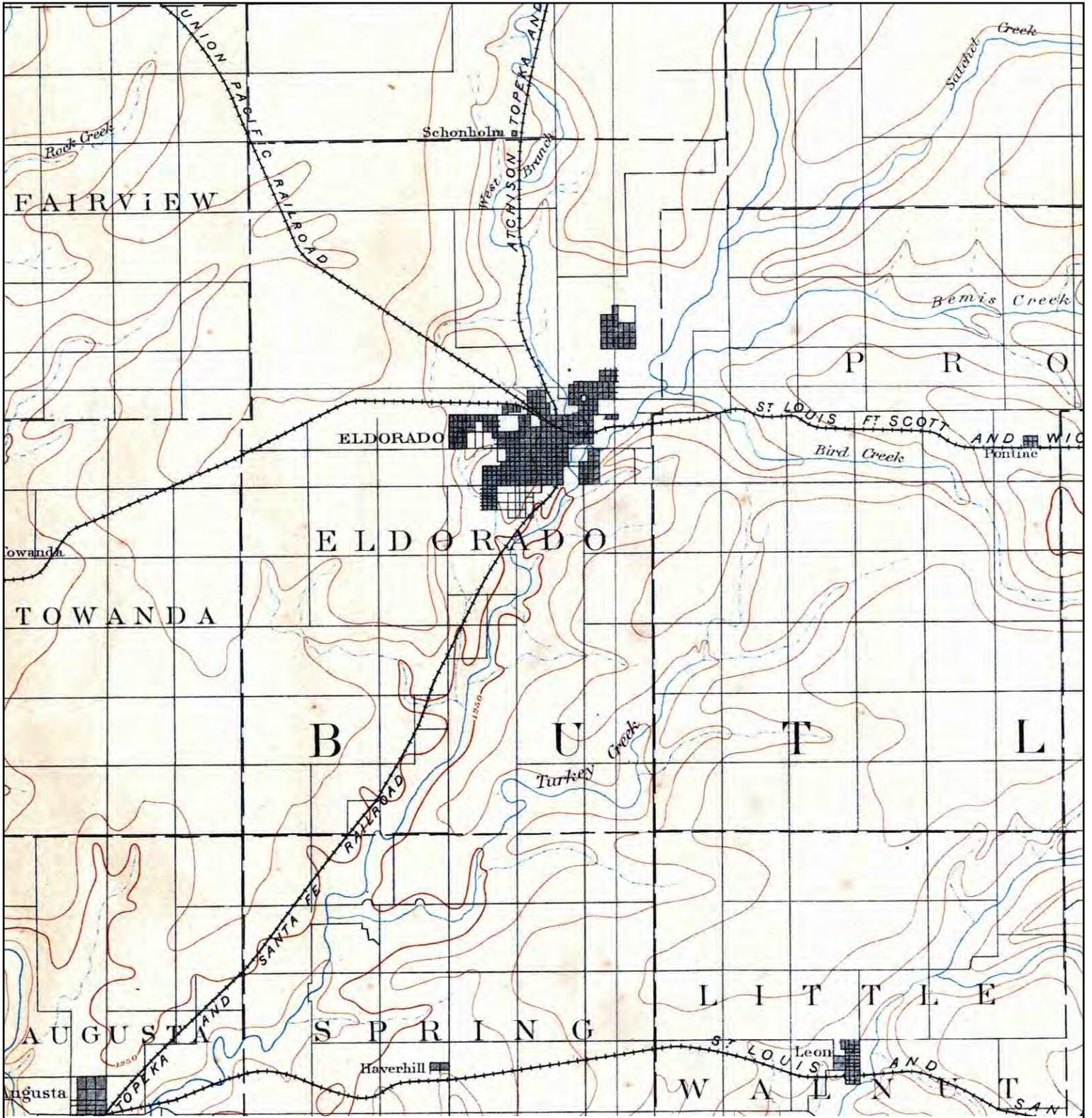
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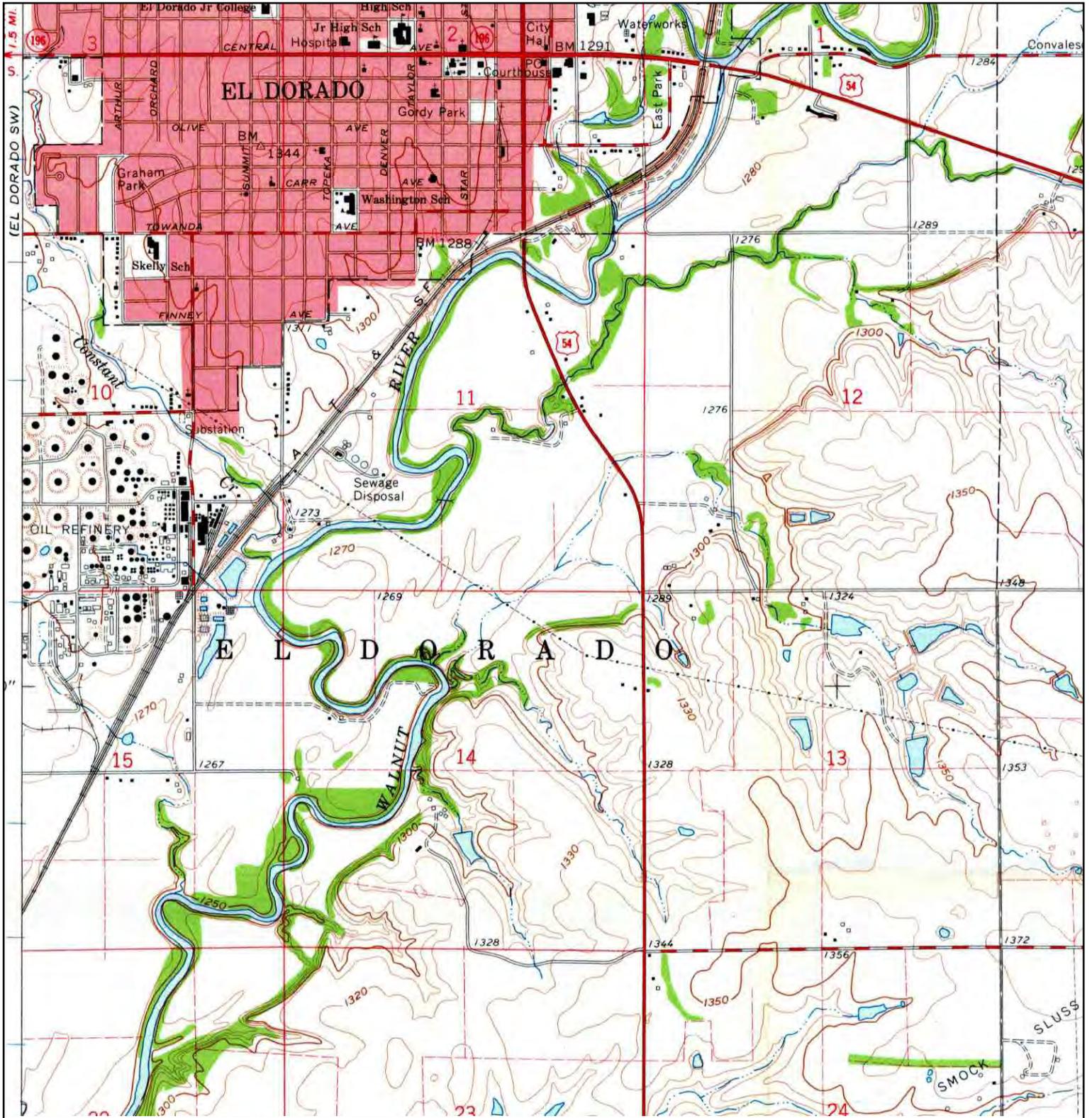
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Historical Topographic Map



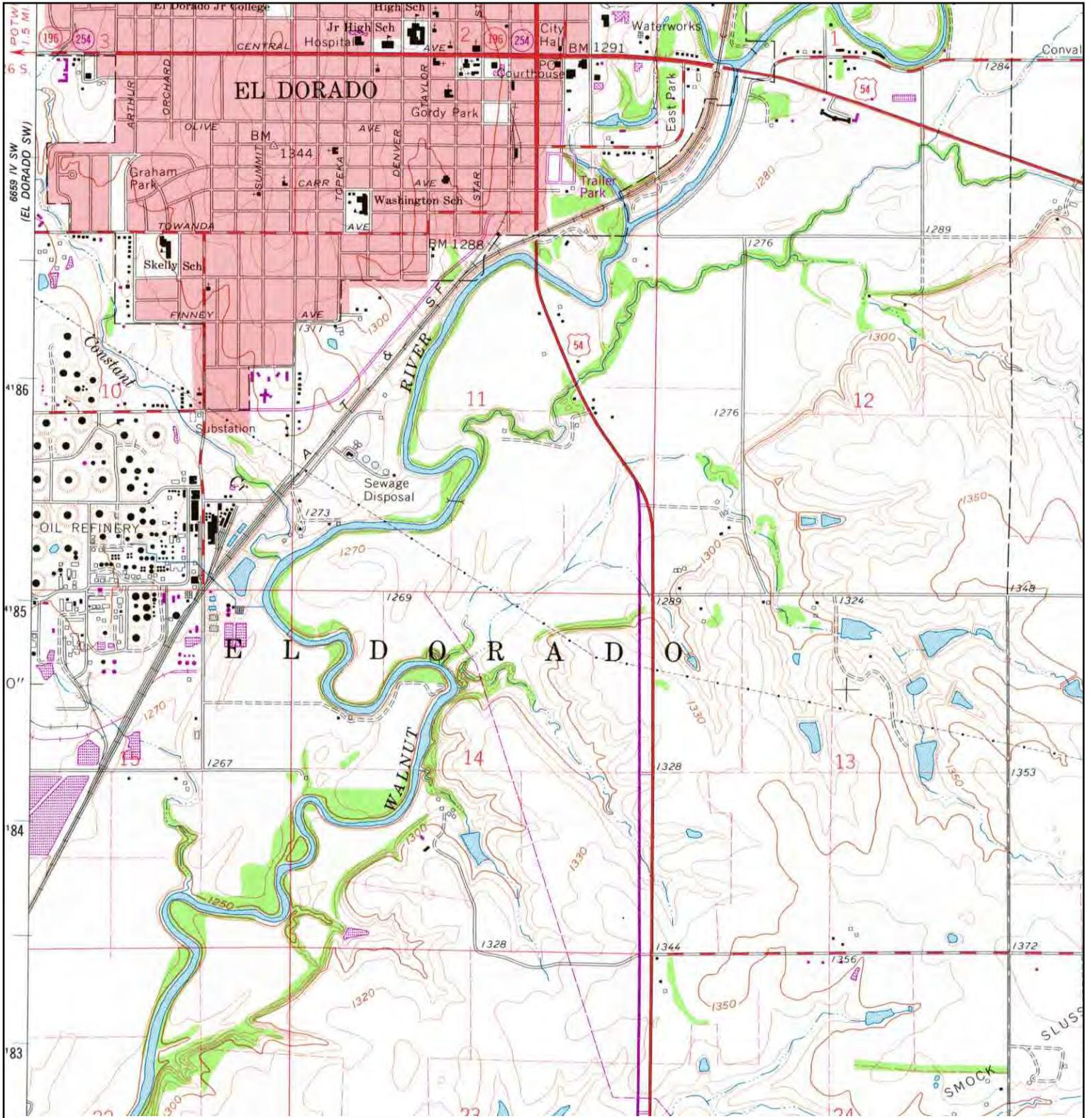
	TARGET QUAD	SITE NAME: El Dorado Wind Tower	CLIENT: URS Corporation
	NAME: EL DORADO	ADDRESS: 105 Wetlands Drive	CONTACT: Charles Arthur
	MAP YEAR: 1888	El Dorado, KS 67042	INQUIRY#: 2870159.3
	SERIES: 30	LAT/LONG: 37.7968 / -96.8518	RESEARCH DATE: 09/15/2010
	SCALE: 1:125000		

Historical Topographic Map



<p>N ↑</p>	<p>TARGET QUAD NAME: EL DORADO MAP YEAR: 1961</p>	<p>SITE NAME: El Dorado Wind Tower ADDRESS: 105 Wetlands Drive El Dorado, KS 67042 LAT/LONG: 37.7968 / -96.8518</p>	<p>CLIENT: URS Corporation CONTACT: Charles Arthur INQUIRY#: 2870159.3 RESEARCH DATE: 09/15/2010</p>
	<p>SERIES: 7.5 SCALE: 1:24000</p>		

Historical Topographic Map



<p>N ↑</p>	TARGET QUAD	SITE NAME: El Dorado Wind Tower	CLIENT: URS Corporation
	NAME: EL DORADO	ADDRESS: 105 Wetlands Drive	CONTACT: Charles Arthur
	MAP YEAR: 1979	El Dorado, KS 67042	INQUIRY#: 2870159.3
	PHOTOREVISED: 1961	LAT/LONG: 37.7968 / -96.8518	RESEARCH DATE: 09/15/2010
	SERIES: 7.5		
	SCALE: 1:24000		



El Dorado Wind Tower

105 Wetlands Drive

El Dorado, KS 67042

Inquiry Number: 2870159.6

September 15, 2010

Certified Sanborn® Map Report

Certified Sanborn® Map Report

9/15/10

Site Name:

El Dorado Wind Tower
105 Wetlands Drive
El Dorado, KS 67042

Client Name:

URS Corporation
8300 College Blvd.
Overland Park, KS 66210



EDR Inquiry # 2870159.6

Contact: Charles Arthur

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by URS Corporation were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: El Dorado Wind Tower
Address: 105 Wetlands Drive
City, State, Zip: El Dorado, KS 67042
Cross Street:
P.O. # 03085688
Project: El Dorado Wind Tower
Certification # 0F36-4B43-B1AD



Sanborn® Library search results
Certification # 0F36-4B43-B1AD

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- Library of Congress
- University Publications of America
- EDR Private Collection

The Sanborn Library LLC Since 1866™

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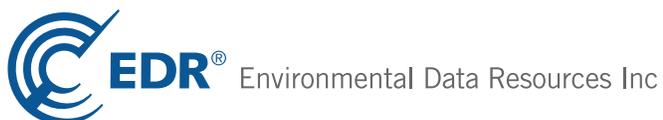
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El Dorado Wind Tower

105 Wetlands Drive
El Dorado, KS 67042

Inquiry Number: 2870159.7s
September 15, 2010

EDR NEPACheck®



440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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EDR NEPACheck[®] DESCRIPTION

The National Environmental Policy Act of 1969 (NEPA) requires that Federal agencies include in their decision-making processes appropriate and careful consideration of all environmental effects and actions, analyze potential environmental effects of proposed actions and their alternatives for public understanding and scrutiny, avoid or minimize adverse effects of proposed actions, and restore and enhance environmental quality as much as possible.

The EDR NEPACheck provides information which may be used, in conjunction with additional research, to determine whether a proposed site or action will have significant environmental effect.

The report provides maps and data for the following items (where available). Search results are provided in the Map Findings Summary on page 2 of this report.

Section	Regulation
Natural Areas Map	
• Federal Lands Data:	
- Officially designated wilderness areas	47 CFR 1.1307(1)
- Officially designated wildlife preserves, sanctuaries and refuges	47 CFR 1.1307(2)
- Wild and scenic rivers	40 CFR 6.302(e)
- Fish and Wildlife	40 CFR 6.302
• Threatened or Endangered Species, Fish and Wildlife, Critical Habitat Data (where available)	47 CFR 1.1307(3); 40 CFR 6.302
Historic Sites Map	
• National Register of Historic Places	47 CFR 1.1307(4); 40 CFR 6.302
• State Historic Places (where available)	
• Indian Reservations	
Flood Plain Map	
• National Flood Plain Data (where available)	47 CFR 1.1307(6); 40 CFR 6.302
Wetlands Map	
• National Wetlands Inventory Data (where available)	47 CFR 1.1307(7); 40 CFR 6.302
FCC & FAA Map	
• FCC antenna/tower sites, FAA Markings and Obstructions, Airports, Topographic gradient	47 CFR 1.1307(8)
Key Contacts and Government Records Searched	

MAP FINDINGS SUMMARY

The databases searched in this report are listed below. Database descriptions and other agency contact information is contained in the Key Contacts and Government Records Searched section on page 20 of this report.

TARGET PROPERTY ADDRESS

EL DORADO WIND TOWER
105 WETLANDS DRIVE
EL DORADO, KS 67042

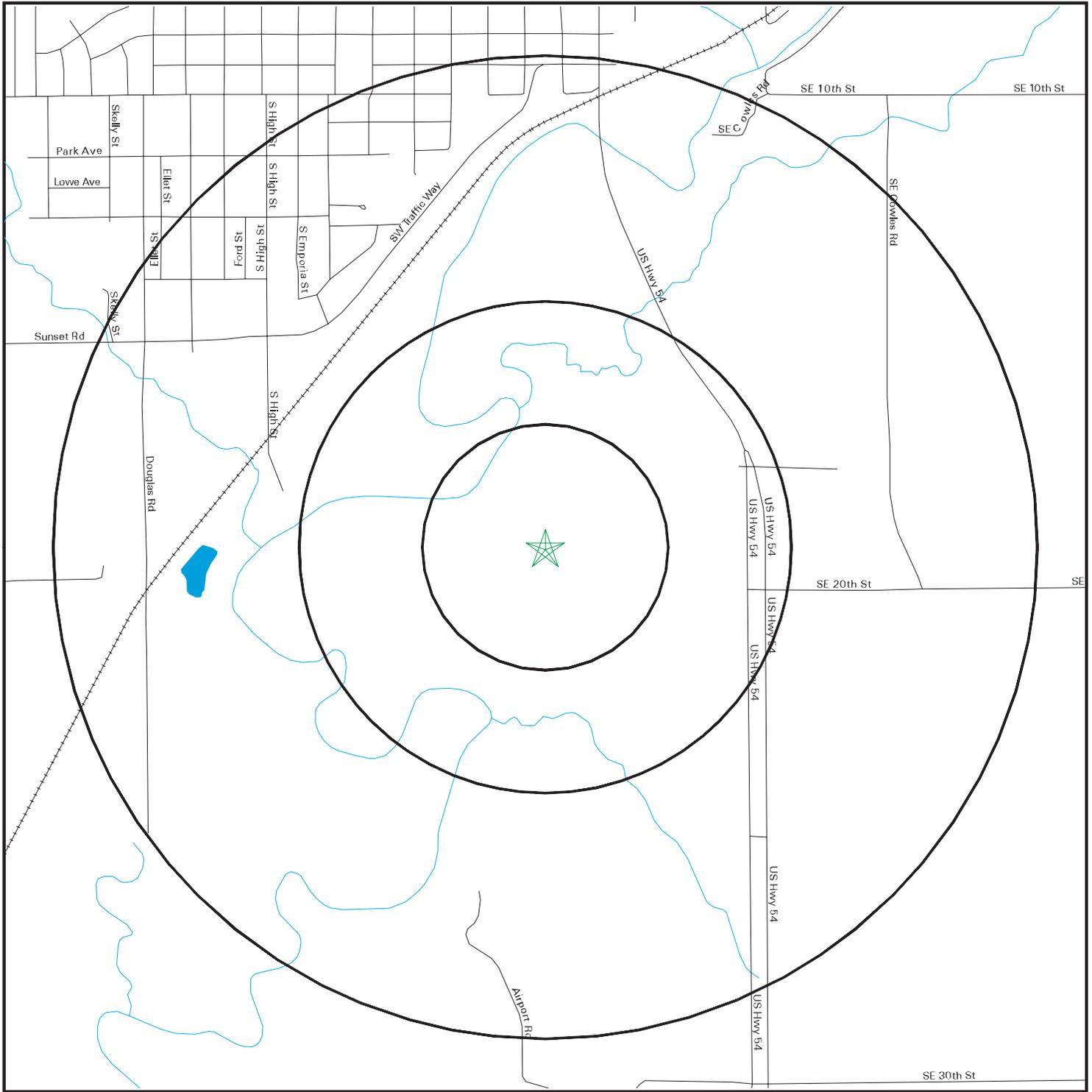
Inquiry #: 2870159.7s
Date: 9/15/10

TARGET PROPERTY COORDINATES

Latitude (North): 37.796791 - 37° 47' 48.4"
Longitude (West): 96.851791 - 96° 51' 6.4"
Universal Tranverse Mercator: Zone 14
UTM X (Meters): 689142.2
UTM Y (Meters): 4185237.2

Applicable Regulation from 47 CFR/FCC Checklist	Database	Search Distance (Miles)	Within Search	Within 1/8 Mile
<u>NATURAL AREAS MAP</u>				
1.1307a (1) Officially Designated Wilderness Area	US Federal Lands	1.00	NO	NO
1.1307a (2) Officially Designated Wildlife Preserve	US Federal Lands	1.00	NO	NO
1.1307a (3) Threatened or Endangered Species or Critical Habitat	KS Critical Habitat	1.00	NO	NO
1.1307a (3) Threatened or Endangered Species or Critical Habitat	County Endangered Species	County	YES	N/A
<u>HISTORIC SITES MAP</u>				
1.1307a (4) Listed or eligible for National Register	National Register of Hist. Pla	1.00	NO	NO
1.1307a (4) Listed or eligible for National Register	KS Historic Sites	1.00	NO	NO
	Indian Reservation	1.00	NO	NO
<u>FLOODPLAIN MAP</u>				
1.1307 (6) Located in a Flood Plain	FLOODPLAIN	1.00	YES	YES
<u>WETLANDS MAP</u>				
1.1307 (7) Change in surface features (wetland fill)	NWI	1.00	NO	NO
<u>FCC & FAA SITES MAP</u>				
	Cellular	1.00	NO	NO
	4G Cellular	1.00	NO	NO
	Antenna Structure Registration	1.00	NO	NO
	Towers	1.00	NO	NO
	AM Antenna	1.00	NO	NO
	FM Antenna	1.00	NO	NO
	FAA DOF	1.00	NO	NO
	Airports	1.00	NO	---
	Power Lines	1.00	YES	---

Natural Areas Map



- ★ Target Property
- ⊕ Locations
- ⚡ Roads
- ▨ Federal Areas
- ⚡ County Boundary
- ⚡ Federal Linear Features
- ⚡ Waterways
- ⚡ State Areas
- Water
- ⚡ State Linear Features



SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.7s
 DATE: September 15, 2010

TC2870159.7s Page 3 of 25

NATURAL AREAS MAP FINDINGS

Endangered Species Listed for: BUTLER County, KS.

Source: EPA Endangered Species Protection Program Database

BIRD: EAGLE, BALD

FISH: SHINER, TOPEKA

Map ID

Direction

Distance

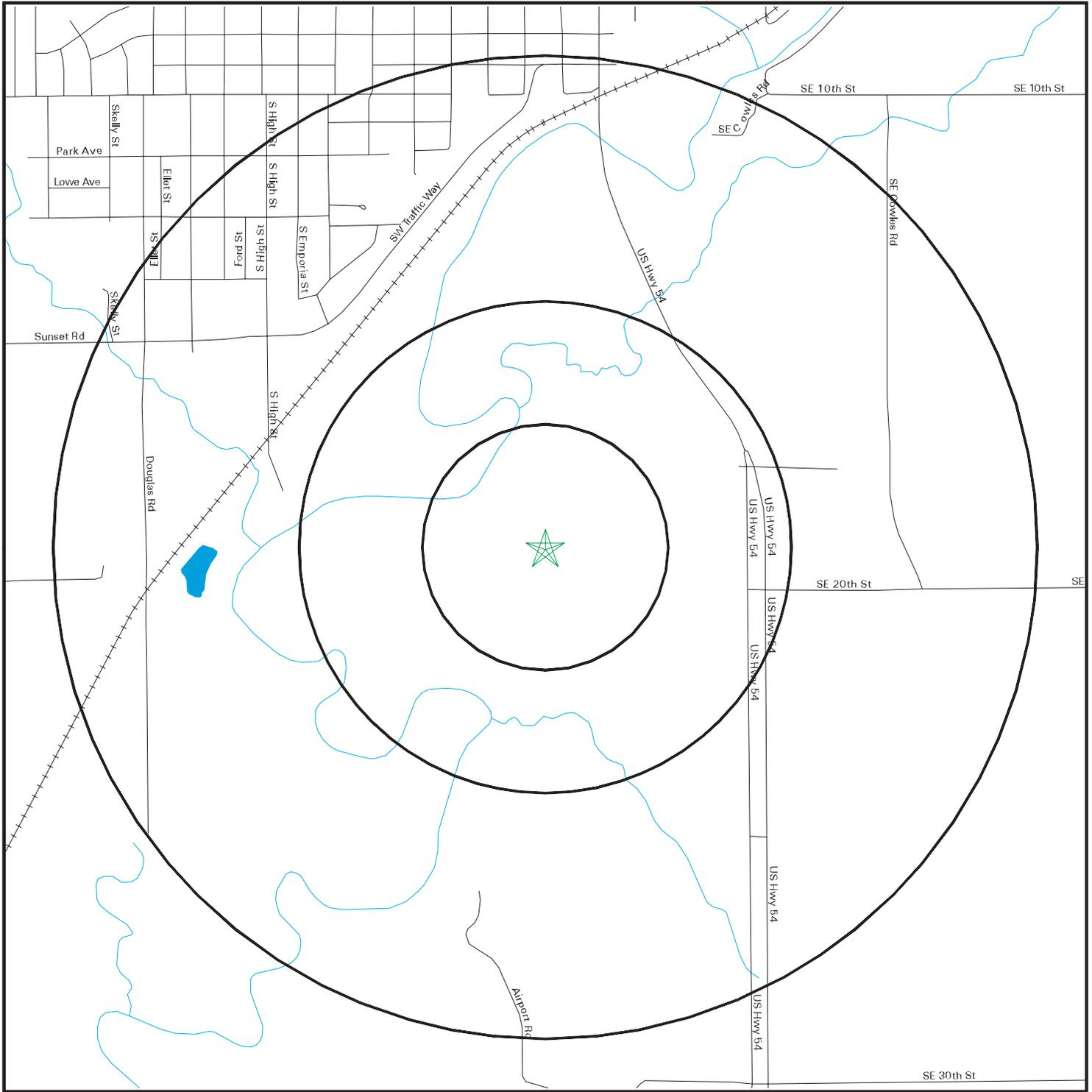
Distance (ft.)

EDR ID

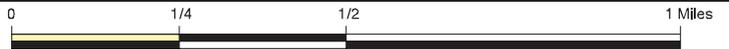
Database

No mapped sites were found in EDR's search of available government records within the search radius around the target property.

Historic Sites Map



- ★ Target Property
- ◆ Historic Sites
- Streets
- Federal Historic Areas
- County Boundary
- State Historic Areas
- Waterways
- US Indian Reservations
- Water
- Scenic Trail



SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.7s
 DATE: September 15, 2010

HISTORIC SITES MAP FINDINGS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

No mapped sites were found in EDR's search of available government records within the search radius around the target property.

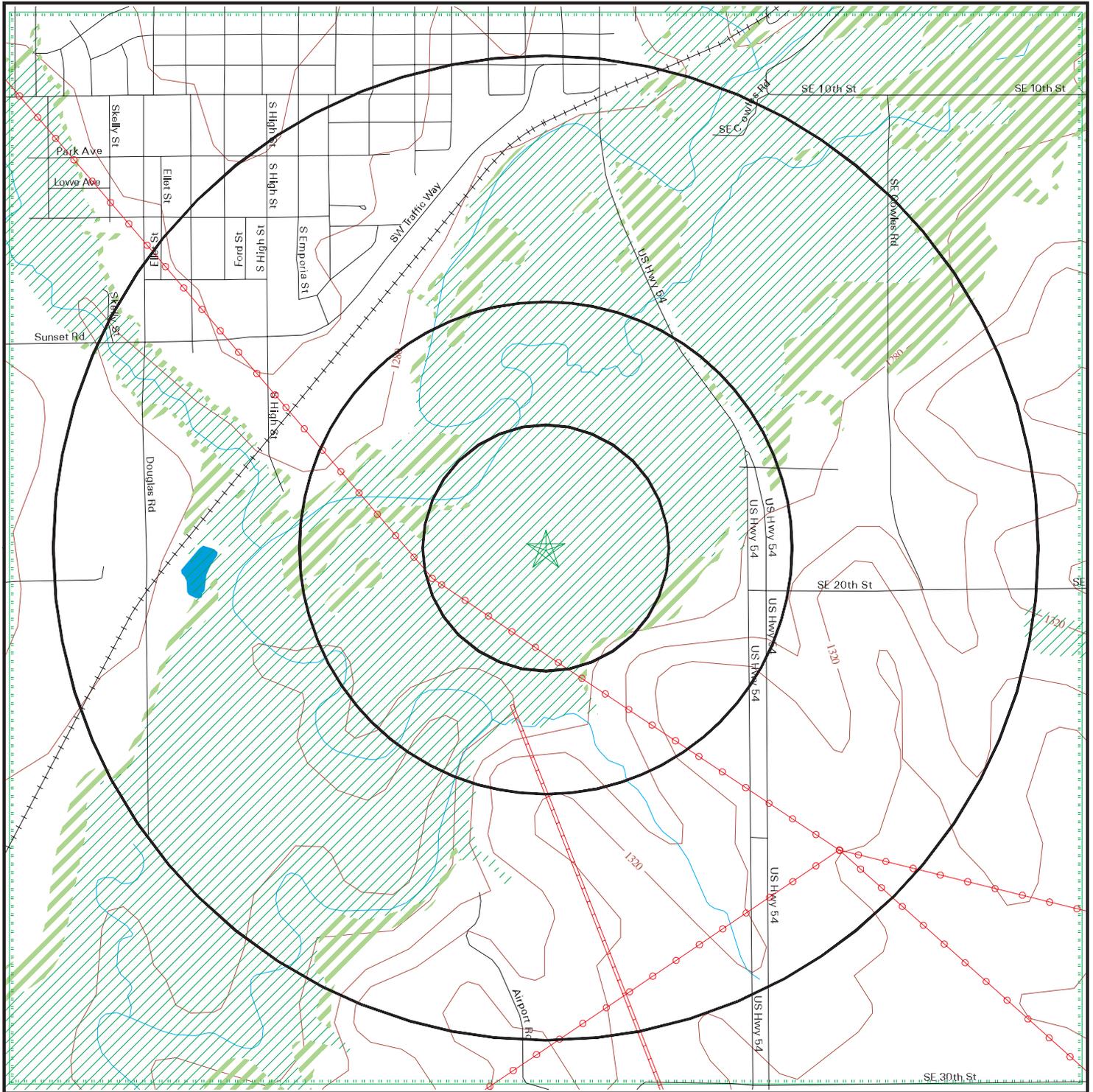
UNMAPPABLE HISTORIC SITES

Due to poor or inadequate address information, the following sites were not mapped:

Status
EDR ID
Database

No unmapped sites were found in EDR's search of available government records.

Flood Plain Map



- | | | |
|-----------------|--------------------------------|------------------------------------|
| Major Roads | Power Lines | Water |
| Contour Lines | Pipe Lines | 100-year flood zone |
| Waterways | Fault Lines | 500-year flood zone |
| County Boundary | Electronic FEMA data available | Electronic FEMA data not available |



SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.7s
 DATE: September 15, 2010

FLOOD PLAIN MAP FINDINGS

Source: FEMA DFIRM Flood Data, FEMA Q3 Flood Data

County

FEMA flood data electronic coverage

BUTLER, KS

YES

Flood Plain panel at target property:

2000370180C (FEMA Q3 Flood data)

Additional Flood Plain panel(s) in search area:

2000390003C (FEMA Q3 Flood data)

WETLANDS MAP FINDINGS

Source: Fish and Wildlife Service NWI data

NWI hardcopy map at target property: Not reported in source data

Additional NWI hardcopy map(s) in search area:

Not reported in source data

Map ID

Direction

Distance

Distance (ft.)

Code and Description*

Database

No Sites Reported.

*See Wetland Classification System for additional information.

WETLANDS CLASSIFICATION SYSTEM

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a sub-department of the U.S. Department of the Interior. In 1974, the U.S. Fish and Wildlife Service developed a criteria for wetland classification with four long range objectives:

- to describe ecological units that have certain homogeneous natural attributes,
- to arrange these units in a system that will aid decisions about resource management,
- to furnish units for inventory and mapping, and
- to provide uniformity in concepts and terminology throughout the U.S.

High altitude infrared photographs, soil maps, topographic maps and site visits are the methods used to gather data for the productions of these maps. In the infrared photos, wetlands appear as different colors and these wetlands are then classified by type. Using a hierarchical classification, the maps identify wetland and deepwater habitats according to:

- system
- subsystem
- class
- subclass
- modifiers

(as defined by Cowardin, et al. U.S. Fish and Wildlife Service FWS/OBS 79/31. 1979.)

The classification system consists of five systems:

1. marine
2. estuarine
3. riverine
4. lacustrine
5. palustrine

The marine system consists of deep water tidal habitats and adjacent tidal wetlands. The riverine system consists of all wetlands contained within a channel. The lacustrine systems includes all nontidal wetlands related to swamps, bogs & marshes. The estuarine system consists of deepwater tidal habitats and where ocean water is diluted by fresh water. The palustrine system includes nontidal wetlands dominated by trees and shrubs and where salinity is below .5% in tidal areas. All of these systems are divided in subsystems and then further divided into class.

National Wetland Inventory Maps are produced by transferring gathered data on a standard 7.5 minute U.S.G.S. topographic map. Approximately 52 square miles are covered on a National Wetland Inventory map at a scale of 1:24,000. Electronic data is compiled by digitizing these National Wetland Inventory Maps.

SYSTEM

MARINE

SUBSYSTEM

1 - SUBTIDAL

2 - INTERTIDAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom	AB-AQUATIC BED	RF-REEF	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm		1 Algal 3 Rooted Vascular 5 Unknown Submergent	1 Coral 3 Worm	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic

SYSTEM

E - ESTUARINE

SUBSYSTEM

1 - SUBTIDAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RF-REEF	OW-OPEN WATER / Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	

SUBSYSTEM

2 - INTERTIDAL

CLASS	AB-AQUATIC BED	RF-REEF	SB - STREAMBED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	SS-SCRUB SHRUB	FO-FORESTED
Subclass	1 Algal 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	2 Mollusk 3 Worm	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Persistent 2 Nonpersistent	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

SYSTEM

R - RIVERINE

SUBSYSTEM

1 - TIDAL 2 - LOWER PERENNIAL 3 - UPPER PERENNIAL 4 - INTERMITTENT 5 - UNKNOWN PERENNIAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	*SB-STREAMBED	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	**EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Bedrock 2 Rubble 3 Cobble-Gravel 4 Sand 5 Mud 6 Organic 7 Vegetated	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

* STREAMBED is limited to TIDAL and INTERMITTENT SUBSYSTEMS, and comprises the only CLASS in the INTERMITTENT SUBSYSTEM.
 **EMERGENT is limited to TIDAL and LOWER PERENNIAL SUBSYSTEMS.

SYSTEM

L - LACUSTRINE

SUBSYSTEM

1 - LIMNETIC

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	

SUBSYSTEM

2 - LITTORAL

CLASS	RB-ROCK BOTTOM	UB-UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	RS-ROCKY SHORE	US-UNCONSOLIDATED SHORE	EM-EMERGENT	OW-OPEN WATER/ Unknown Bottom
Subclass	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown Submergent 6 Unknown Surface	1 Bedrock 2 Rubble	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	2 Nonpersistent	

SUBSYSTEM

P - PALUSTRINE

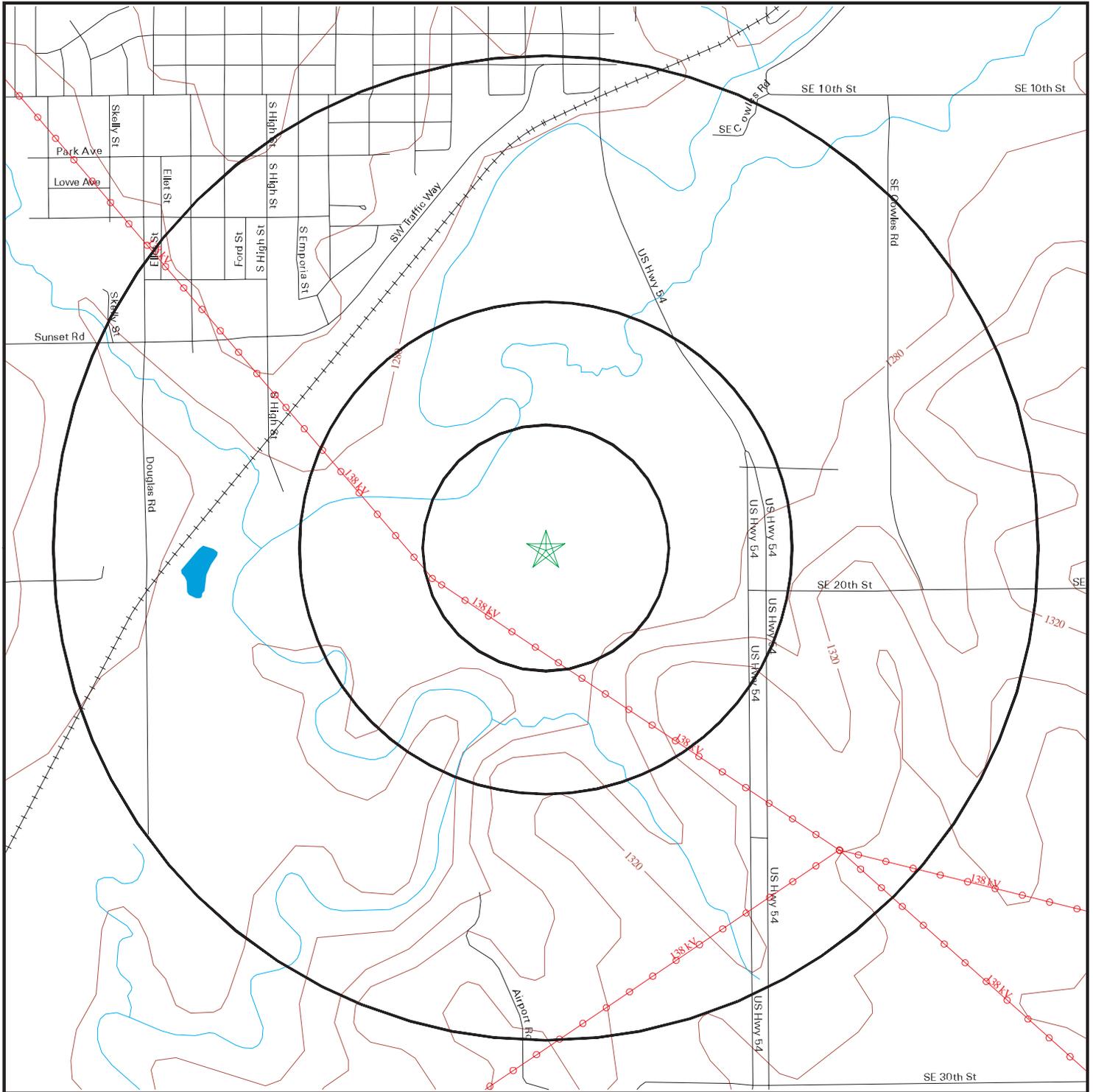
CLASS	RB--ROCK BOTTOM	UB--UNCONSOLIDATED BOTTOM	AB-AQUATIC BED	US--UNCONSOLIDATED SHORE	ML--MOSS- LICHEN	EM--EMERGENT	SS--SCRUB-SHRUB	FO--FORESTED	OW-OPEN WATER/ Unknown
Subclass	1 Bedrock 2 Rubble 3 Mud 4 Organic	1 Cobble-Gravel 2 Sand	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular 5 Unknown 6 Unknown Surface	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated	1 Moss 2 Lichen	1 Persistent 2 Nonpersistent	1 Broad-Leaved 2 Needle-Leaved 3 Broad-Leaved 4 Needle-Leaved 5 Dead 6 Deciduous 7 Evergreen	1 Broad-Leaved 2 Needle-Leaved 3 Broad-Leaved 4 Needle-Leaved 5 Dead 6 Deciduous 7 Evergreen	

MODIFIERS

In order to more adequately describe wetland and deepwater habitats one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

WATER REGIME				WATER CHEMISTRY			SOIL	SPECIAL MODIFIERS
Non-Tidal	Tidal	Coastal	Inland	Salinity	pH	Modifiers		
A Temporarily Flooded	H Permanently Flooded	K Artificially Flooded	*S Temporary-Tidal	1 Hyperhaline	7 Hypersaline	all Fresh Water	g Organic	b Beaver
B Saturated	J Intermittently Flooded	L Subtidal	*R Seasonal-Tidal	2 Euhaline	8 Eusaline	a Acid	n Mineral	d Partially Drained/Ditched
C Seasonally Flooded	K Artificially Flooded	M Irregularly Exposed	*T Semipermanent -Tidal	3 Mixohaline (Brackish)	9 Mixosaline	t Circumneutral		f Farmed
D Seasonally Flooded/ Well Drained	W Intermittently Flooded/Temporary	N Regularly Flooded	V Permanent -Tidal	4 Polyhaline	0 Fresh	i Alkaline		h Diked/Impounded
E Seasonally Flooded/ Saturated	Y Saturated/Semipermanent/ Seasonal	P Irregularly Flooded	U Unknown	5 Mesohaline				r Artificial Substrate
F Semipermanently Flooded	Z Intermittently Exposed/Permanent	*These water regimes are only used in tidally influenced, freshwater systems.			6 Oligohaline			s Spoil
G Intermittently Exposed	U Unknown			0 Fresh				x Excavated

FCC & FAA Sites Map



-  Streets
-  Contour Lines
-  County Boundary
-  Waterways
-  Power Lines
-  Water
-  Sites



SITE NAME: El Dorado Wind Tower
 ADDRESS: 105 Wetlands Drive
 El Dorado KS 67042
 LAT/LONG: 37.7968 / 96.8518

CLIENT: URS Corporation
 CONTACT: Charles Arthur
 INQUIRY #: 2870159.7s
 DATE: September 15, 2010

FCC & FAA SITES MAP FINDINGS TOWERS

Map ID
Direction
Distance
Distance (ft.)

EDR ID
Database

No Sites Reported.

FCC & FAA SITES MAP FINDINGS AIRPORTS

EDR ID
Database

No Sites Reported.

FCC & FAA SITES MAP FINDINGS POWERLINES

EDR ID
Database

POW1000007410
POWERLINES

Name: KS603
Id: 3604
Kv: 138
Label: 138 kV
Company: Kansas Gas & Electric, a Westar Energy Co.
Companyabb: KGE (Westar)
Edr id: POW1000007410

POW1000007414
POWERLINES

Name: KS607
Id: 3608
Kv: 138
Label: 138 kV
Company: Kansas Gas & Electric, a Westar Energy Co.
Companyabb: KGE (Westar)
Edr id: POW1000007414

POW1000007413
POWERLINES

Name: KS606
Id: 3607
Kv: 138
Label: 138 kV
Company: Kansas Gas & Electric, a Westar Energy Co.
Companyabb: KGE (Westar)
Edr id: POW1000007413

POW1000007411
POWERLINES

Name: KS604
Id: 3605
Kv: 138
Label: 138 kV
Company: Kansas Gas & Electric, a Westar Energy Co.
Companyabb: KGE (Westar)
Edr id: POW1000007411

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Various Federal laws and executive orders address specific environmental concerns. NEPA requires the responsible offices to integrate to the greatest practical extent the applicable procedures required by these laws and executive orders. EDR provides key contacts at agencies charged with implementing these laws and executive orders to supplement the information contained in this report.

NATURAL AREAS

Officially designated wilderness areas

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

National Park Service, Midwest Region

1709 Jackson Street

Omaha, NE 68102

402-221-3471

USDA Forest Service, Rocky Mountain

740 Simms Street P.O. Box 25127

Lakewood, CO 80225

303-275-5160

BLM- New Mexico State Office

1474 Rodeo Road

Santa Fe, NM 87502-0115

505-438-7400

Fish & Wildlife Service, Region 6

P.O. Box 25486 Denver Federal Center

Denver, CO 80225

303-236-7917

Officially designated wildlife preserves, sanctuaries and refuges

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 6
P.O. Box 25486 Denver Federal Center
Denver, CO 80225
303-236-7917

State Contacts for Additional Information

Dept. of Wildlife and Parks 785-273-6740

Wild and scenic rivers

Government Records Searched in This Report

FED_LAND: Federal Lands

Source: USGS

Telephone: 703-648-5094

Federal data from Bureau of Land Management, National Park Service, Forest Service, and Fish and Wildlife Service.

- National Parks
- Forests
- Monuments
- Wildlife Sanctuaries, Preserves, Refuges
- Federal Wilderness Areas.

Date of Government Version: 12/31/2005

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 6
P.O. Box 25486 Denver Federal Center
Denver, CO 80225
303-236-7917

Endangered Species

Government Records Searched in This Report

Endangered Species Protection Program Database

A listing of endangered species by county.

Source: Environmental Protection Agency

Telephone: 703-305-5239

KS Designated Critical Habitat: KS Designated Critical Habitat

Critical habitats include those areas documented as currently supporting self-sustaining populations of any threatened or endangered species of wildlife as well as those areas determined by the Kansas Department of Wildlife and Parks to be essential for the conservation of any threatened or endangered species of wildlife

Source: Department of Wildlife and Parks.

Telephone: 316-672-5911

Federal Contacts for Additional Information

Fish & Wildlife Service, Region 6
P.O. Box 25486 Denver Federal Center
Denver, CO 80225
303-236-7917

State Contacts for Additional Information

Natural Heritage Inventory, Kansas Biological Survey 785-864-3453

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

LANDMARKS, HISTORICAL, AND ARCHEOLOGICAL SITES

Historic Places

Government Records Searched in This Report

National Register of Historic Places:

The National Register of Historic Places is the official federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. These contribute to an understanding of the historical and cultural foundations of the nation.

The National Register includes:

- All prehistoric and historic units of the National Park System;
- National Historic Landmarks, which are properties recognized by the Secretary of the Interior as possessing national significance; and
- Properties significant in American, state, or local prehistory and history that have been nominated by State Historic Preservation Officers, federal agencies, and others, and have been approved for listing by the National Park Service.

Date of Government Version: 03/23/2006

KS Historic Sites: State Register

Listing of historic sites included on the State Register.

Source: Kansas State Historical Society.

Telephone: 785-272-8681

KS Historic Sites: National Register of Historic Places

Listing of historic sites included on the National Register for Kansas.

Source: Kansas State Historical Society.

Telephone: 785-272-8681

Federal Contacts for Additional Information

Park Service; Advisory Council on Historic Preservation

1849 C Street NW

Washington, DC 20240

Phone: (202) 208-6843

State Contacts for Additional Information

Kansas State Historical Society 785-272-8681

Indian Religious Sites

Government Records Searched in This Report

Indian Reservations:

This map layer portrays Indian administrated lands of the United States that have any area equal to or greater than 640 acres.

Source: USGS

Phone: 888-275-8747

Date of Government Version: 12/31/2005

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Federal Contacts for Additional Information

Department of the Interior- Bureau of Indian Affairs
Office of Public Affairs
1849 C Street, NW
Washington, DC 20240-0001
Office: 202-208-3711
Fax: 202-501-1516

National Association of Tribal Historic Preservation Officers
1411 K Street NW, Suite 700
Washington, DC 20005
Phone: 202-628-8476
Fax: 202-628-2241

State Contacts for Additional Information

A listing of local Tribal Leaders and Bureau of Indian Affairs Representatives can be found at:
<http://www.doi.gov/bia/areas/agency.html>

Anadarko Area Office, Bureau of Indian Affairs
WCD Office Complex P.O. Box 368
Anadarko, OK 73005
405-247-6673

FLOOD PLAIN, WETLANDS AND COASTAL ZONE

Flood Plain Management

Government Records Searched in This Report

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

Federal Contacts for Additional Information

Federal Emergency Management Agency 877-3362-627

State Contacts for Additional Information

Div. Of Emergency Management 785-274-1409

Wetlands Protection

Government Records Searched in This Report

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2004 from the U.S. Fish and Wildlife Service.

Federal Contacts for Additional Information

Fish & Wildlife Service 813-570-5412

State Contacts for Additional Information

Dept. of Wildlife & Parks 785-273-6740

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

Coastal Zone Management

Government Records Searched in This Report

CAMA Management Areas

Dept. of Env., Health & Natural Resources
919-733-2293

Federal Contacts for Additional Information

Office of Ocean and Coastal Resource Management

N/ORM, SSMC4
1305 East-West Highway
Silver Spring, Maryland 20910
301-713-3102

State Contacts for Additional Information

FCC & FAA SITES MAP

For NEPA actions that come under the authority of the FCC, the FCC requires evaluation of Antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by the applicable zoning law.

Government Records Searched in This Report

Cellular

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

4G Cellular

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

Antenna Structure Registration

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

Towers

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

AM Antenna

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

FM Antenna

Federal Communications Commission
445 12th Street, SW
Washington, DC 20554
888-225-5322

KEY CONTACTS & GOVERNMENT RECORDS SEARCHED

FAA Digital Obstacle File

Federal Aviation Administration (FAA)
1305 East-West Highway, Station 5631
Silver Spring, MD 20910-3281
Telephone: 301-713-2817

Describes known obstacles of interest to aviation users in the US. Used by the Federal Aviation Administration (FAA) and the National Oceanic and Atmospheric Administration to manage the National Airspace System.

Airport Landing Facilities

Federal Aviation Administration
Telephone (800) 457-6656
Private and public use landing facilities.

Electric Power Transmission Line Data

Rextag Strategies Corp.
14405 Walters Road, Suite 510
Houston, TX 77014
281-769-2247
U.S. Electric Transmission and Power Plants systems Digital GIS Data.

Excessive Radio Frequency Emission

For NEPA actions that come under the authority of the FCC, Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations or modifications in existing facilities, require the determination of whether the particular facility, operation or transmitter would cause human exposure to levels of radio frequency in excess of certain limits.

Federal Contacts for Additional Information

Office of Engineering and Technology
Federal Communications Commission
445 12th Street SW
Washington, DC 20554
Phone: 202-418-2470

OTHER CONTACT SOURCES

STREET AND ADDRESS INFORMATION

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El Dorado Wind Tower

105 Wetlands Drive
El Dorado, KS 67042

Inquiry Number: 2870159.5
September 17, 2010

The EDR-City Directory Abstract

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OR DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.
2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.
3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.
2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.
3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.
4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Source</u>	<u>TP</u>	<u>Adjoining</u>	<u>Text Abstract</u>	<u>Source Image</u>
2010	Polk's City Directory	-	-	-	-
2004	Polk's City Directory	-	-	-	-
1999	Polk's City Directory	-	-	-	-
1994	Polk's City Directory	-	-	-	-
1989	Polk's City Directory	-	-	-	-
1984	Polk's City Directory	-	-	-	-
1979	Polk's City Directory	-	-	-	-
1974	Polk's City Directory	-	-	-	-
1969	Polk's City Directory	-	-	-	-
1963	Polk's City Directory	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

105 Wetlands Drive
El Dorado, KS 67042

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

No Addresses Found

FINDINGS

STREET NOT IDENTIFIED IN RESEARCH SOURCE

The following Streets were researched for this report, and the Streets were not identified in the research source.

Street Researched

Wetlands Drive

Street Not Identified in Research Source

2010, 2004, 1999, 1994, 1989, 1984, 1979, 1974, 1969, 1963

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched

Wetlands Drive

Address Not Identified in Research Source

No Years Found

APPENDIX E: PUBLIC COMMENTS AND RESPONSES

**El Dorado Wind Energy Project Draft Environmental Assessment
Comments and Responses**

Number	Commenter	Comments Received	Comment Summary	Response
1	Michael LaValley, USFWS Kansas Ecological Services Field Office	12/21/2010	<p>The draft EA adequately addresses the concerns expressed by this office during earlier coordination and scoping with the project developers.</p> <p>With DOE's commitment to implement the measures and Best Management Practices (cited on pages 10 and 11 of the draft EA) during site development and construction, I am satisfied that the project will have minimal impact on our trust fish and wildlife resources.</p>	Thank you for your comments.
2	Bob Lytle, Kansas Department of Agriculture	12/22/2010	<p>The locations of the wind turbines as depicted in the Draft Environmental Assessment found on your website are located in the floodplain. It is likely, depending on the construction methods, that permits will be needed from our Water Structures Section of the Division of Water Resources, Kansas Department of Agriculture. It is suggested that you contact Jean Darrah at 785-296-2855 to have a permit determination made. Our assigned File No. for this project is A-95 2010.257.</p>	<p>Correspondence with Steve Samualson with KDA Division of Water Resources on 9/27/10 indicated that the participating community is responsible for the review and acceptance of the "No-Rise Certification" (i.e. City of El Dorado). Periodically KDA will audit the communities for compliance with the state and federal programs. We can submit the No-Rise Certification and supporting documentation directly to DWR and they will place in the Butler County file. This is not a requirement. We are required to submit to the City of El Dorado.</p>
3	Tom Morey, Kansas Department of Agriculture, State NFIP Coordinator	12/23/2010	<p>The locations of the wind turbines as depicted in the Draft Environmental Assessment found on your website are located within the boundary of an identified floodway as well as the 1% floodplain. Any development within the floodplain will require a permit from either the City of El Dorado or Butler County depending on which community has jurisdiction for this location. Any encroachment within the floodway will also require a no-rise certification that the encroachment will not result in any increase to the Base Flood Elevation. If this cannot be obtained, a Conditional Letter of Map Revision will need to be obtained prior to construction of the project.</p>	<p>The facility has obtained a special use permit from the City of El Dorado. The facility has been in contact with City staff responsible for overseeing construction activity within the floodplain and intends on obtaining the required "No-Rise Certification." Based on communications to date, this is not anticipated to be a problem. If the certification can not be obtained, then El Dorado would follow the requirement to get the Conditional Letter of Map Revision.</p>
4	Margaret Fast, Kansas Water Office	12/27/2010	<p>The Kansas Water Office has reviewed the information provided on the above referenced El Dorado Wetlands and Water Reclamation Facility Wind Energy Project. We have no comments based on our review and do not oppose approval of the project.</p>	Thank you for your comments.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Kansas Ecological Services Field Office
2609 Anderson Avenue
Manhattan, Kansas 66502

December 21, 2010

Ms. Amy VanDercook
DOE Golden Field Office
Mail Stop 1501
1617 Cole Boulevard
Golden, Colorado 80401

RE: DOE/EA 1833D; Butler County, KS

64411-2011-CPA-0135

Dear Ms. VanDercook:

I have reviewed the Draft Environmental Assessment for the El Dorado Wetlands and Water Reclamation Facility Wind Energy Project, DOE/EA 1833D. The draft EA adequately addresses the concerns expressed by this office during earlier coordination and scoping with the project developers.

With DOE's commitment to implement the measures and Best Management Practices (cited on pages 10 and 11 of the draft EA) during site development and construction, I am satisfied that the project will have minimal impact on our trust fish and wildlife resources.

If you have any questions, please do not hesitate to contact me at 785-539-3474, extension 105. Thank you for the opportunity to comment on the proposed action.

Sincerely,

Michael J. LeValley
Field Supervisor

cc: KDWP, Pratt, KS (Environmental Services)

FW: El Dorado Wetlands Wind Energy Project DOE/EA: 1833D

Van Dercook, Amy [amy.vandercook@go.doe.gov]

Sent: Wednesday, December 22, 2010 2:27 PM

To: David_Kocour@URSCorp.com; Charles_Arthur@URSCorp.com

Cc: Sweeney, Robin [robin.sweeney@go.doe.gov]; Plummer, Lori [lori.plummer@go.doe.gov]; Ferro, James

This is the first response to the "Notice of Availability." Please put in admin record.

Todd Bond (with URS) researched this early on in our process and in a 9/27/2010 email identified Steve Samuelson - NFIP Specialist with Kansas Department of Agriculture - Division of Water Resources as contact. Todd Bond stated that the participating community is responsible for the review and acceptance of the "No-Rise Certification" (i.e. City of El Dorado). Periodically KDA will audit the communities for compliance with the state and federal programs. We can submit the No-Rise Certification and supporting documentation directly to DWR and they will place in the Butler County file. This is not a requirement. We are required to submit to the City of El Dorado.

We can use this information in response to comments and suggest that El Dorado files "No Rise Cert" with DWR also.

Thanks,
Amy

-----Original Message-----

From: Lytle, Bob [<mailto:Bob.Lytle@KDA.KS.GOV>]

Sent: Wednesday, December 22, 2010 10:48 AM

To: Van Dercook, Amy

Cc: Morey, Tom; Samuelson, Steve

Subject: El Dorado Wetlands Wind Energy Project DOE/EA: 1833D

Ms. VanDercook:

This message will acknowledge receipt of your Notice of Availability concerning the proposed Federal Reinvestment and Recovery Funding to the Kansas Corporation Commission for the City of El Dorado's Wind Energy Project. The locations of the wind turbines as depicted in the Draft Environmental Assessment found on your website are located in the floodplain. It is likely, depending on the construction methods, that permits will be needed from our Water Structures Section of the Division of Water Resources, Kansas Department of Agriculture. It is suggested that you contact Jean Darrah at 785-296-2855 to have a permit determination made. Our assigned File No. for this project is A-95 2010.257. Thank you for the opportunity to review the project.

Fw: El Dorado Wetlands Wind Energy Project DOE/EA: 1833D

Van Dercook, Amy [amy.vandercook@go.doe.gov]

Sent: Saturday, December 25, 2010 5:12 PM

To: Ferro, James; Charles_Arthur@URSCorp.com; Van Dercook, Amy [amy.vandercook@go.doe.gov]

This message was sent from
a Blackberry Handheld Device

Golden Field Office

From: Morey, Tom <Tom.Morey@KDA.KS.GOV>

To: Van Dercook, Amy

Cc: Samuelson, Steve <Steve.Samuelson@KDA.KS.GOV>; Byrd, Ed <Ed.Byrd@KDA.KS.GOV>; Voigt, Chad <Chad.Voigt@KDA.KS.GOV>

Sent: Thu Dec 23 08:36:27 2010

Subject: RE: El Dorado Wetlands Wind Energy Project DOE/EA: 1833D

Ms. Vandercook:

This message will acknowledge receipt of your Notice of Availability concerning the proposed Federal Reinvestment and Recovery Funding to the Kansas Corporation Commission for the City of El Dorado's Wind Energy Project. The locations of the wind turbines as depicted in the Draft Environmental Assessment found on your website are located within the boundary of an identified floodway as well as the 1% floodplain. Any development within the floodplain will require a permit from either the City of El Dorado or Butler County depending on which community has jurisdiction for this location. Any encroachment within the floodway will also require a no-rise certification that the encroachment will not result in any increase to the Base Flood Elevation. If this cannot be obtained, a Conditional Letter of Map Revision will need to be obtained prior to construction of the project.

If you need further information, please let me know.

Tom Morey, R.S., CFM
Kansas Department of Agriculture
State NFIP Coordinator

(785) 296-5440

(785) 506-3505 (cell)

(785) 296-4835 (fax)

tom.morey@kda.ks.gov



December 27, 2010

Amy Vandercook
DOE Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

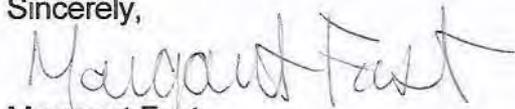
Re: El Dorado Wetlands and Water Reclamation
Facility Wind Energy Project

Dear Ms. Vandercook:

The Kansas Water Office has reviewed the information provided on the above referenced El Dorado Wetlands and Water Reclamation Facility Wind Energy Project. We have no comments based on our review and do not oppose approval of the project.

Thank you for the opportunity to comment. Feel free to contact me if you have any questions.

Sincerely,



Margaret Fast
Manager, Public Water Supply

MF:clw



Department of Energy

Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3305

DOE/EA-1833

FINDING OF NO SIGNIFICANT IMPACT AND FLOODPLAIN STATEMENT OF FINDINGS CITY OF EL DORADO WIND ENERGY PROJECT EL DORADO, BUTLER COUNTY, KANSAS

AGENCY: U.S. Department of Energy, Golden Field Office

ACTION: Finding of No Significant Impact (FONSI)

SUMMARY: The U.S. Department of Energy's (DOE's) Proposed Action is to authorize the expenditure of federal funding appropriated under the *American Recovery and Reinvestment Act* (Recovery Act) to design, permit, and construct the El Dorado Wind Energy Project (Wind Energy Project), a 1.0-megawatt wind turbine to be located immediately west of the El Dorado Wetlands and Water Reclamation Facility in El Dorado, Butler County, Kansas.

DOE has made these funds available to the Kansas Corporation Commission (KCC) through the Energy Efficiency and Conservation Block Grant (EECBG) Program¹; however, DOE must complete review of the Wind Energy Project under the National Environmental Policy Act (NEPA) before KCC may issue a subgrant to provide EECBG funding for the construction of the Wind Energy Project.

Based on the information and analyses in the final Environmental Assessment (EA), DOE has determined that its Proposed Action does not constitute a major federal action that would significantly affect the quality of the human environment within the meaning of the National Environmental Policy Act (NEPA). Therefore, an environmental impact statement (EIS) is not required, and DOE is issuing this FONSI.

All discussion, analysis, and findings related to the potential impacts of construction, operation and eventual decommissioning of the Wind Energy Project, including the applicant-committed measures, are contained in the final EA. The final EA is hereby incorporated by reference.

This FONSI was prepared in accordance with the *National Environmental Policy Act of 1969* (NEPA), the Council on Environmental Quality regulations for implementing NEPA, as amended, 40 CFR 1500 to 1508, and DOE NEPA regulations 10 CFR 1021.

ENVIRONMENTAL IMPACTS: The final EA examined the potential environmental impacts of the Proposed Action and of a No-Action Alternative. Under the No-Action Alternative, DOE would not authorize the use of EECBG funds for the Wind Energy Project, which DOE assumes for purposes of the final EA would not be constructed or operated.

The proposed City of El Dorado Wind Energy Project would be constructed and operated on property owned by the City and located immediately west of the El Dorado Wetlands and Water Reclamation

¹ Prior to the issuance of this FONSI, DOE authorized the Kansas Corporation Commission (KCC) to use a percentage of their federal funding for preliminary activities, which include preparation of the El Dorado Wind Energy Project EA. These activities are associated with the Proposed Project and do not significantly impact the environment nor represent an irreversible or irretrievable commitment by the Department of Energy in advance of the conclusion of the EA for the Proposed Project.



Facility. The proposed project site is zoned for light industrial use. The proposed wind turbine is anticipated to offset approximately 6,175 kilowatts of electrical load on a daily basis and fulfill approximately 98 percent of the Facility's annual electricity demand. This would enable the City to reduce electrical demands from the existing electrical provider and lower its carbon footprint. The proposed project would employ approximately eight people during construction.

Based on the information presented within the final EA, DOE concludes that the design, permitting, construction, and operation of the El Dorado Wind Energy Project would not have measurable impacts to the following resources: historic and cultural resources, geology and soils, visual resources, biological resources including threatened and endangered species, human health and safety, transportation, social and economic conditions including minority or low-income populations, air quality and climate change, utilities and energy, water resources, and impacts related to intentional destructive acts.

Implementation of the proposed project would permanently commit less than one acre of previously disturbed, agricultural land and temporarily disturb less than one acre of previously disturbed agricultural cropland owned by the City of El Dorado. The area immediately surrounding the proposed turbine location would remain agricultural cropland. The proposed project would result in minimal direct or indirect impacts and a negligible irretrievable commitment of land (See Section 3.2.2.1 of the EA).

Noise would be generated by construction equipment during the project's short-term construction phase. However, the construction noise would not be expected to significantly increase ambient noise levels. During operations, estimated turbine noise levels at the nearest residence would be less than 37 A-weighted decibels (dBA), which is lower than the Butler County noise statute levels and U.S. Environmental Protection Agency noise level guidelines of 55 to 65 dBA for the Day Night Average Sound Level. Therefore, no significant impacts are expected (See Section 3.2.2.3 of the EA).

Implementation of the proposed project would introduce a new and dominant vertical feature into the existing viewshed. The visual impact of the wind turbine is reduced because of other already existing vertical elements in the area such as electrical transmission towers and various oil refinery production towers. The results of the shadow flicker study commissioned by the City for this project indicates shadow flicker would have the potential to affect up to five receptors, all single-family residences, with the greatest impacts to one receptor for a maximum of 1.42 hours per year. Approximately 3,000 feet of US-77 would experience shadow flicker effects. The majority of the impacted roadway would experience less than 2 hours of shadow flicker per year. Therefore, significant adverse visual impacts that would affect nearby residences or users of the project area and surrounding areas are not anticipated as a result of the El Dorado wind project (See Section 3.2.2.2 of the EA).

There are no historic properties within the project site. The nearest historic property is located approximately 1.25 miles north of the project location. No archeological resources appear to be located within the construction footprint, and the nearest archaeological site is located over 1,350 feet from the project location. DOE does not anticipate encountering cultural resources during construction or ground disturbance. In accordance with Section 106 of the National Historic Preservation Act (NHPA), DOE determined that the proposed project would have no adverse impacts on the subject property or other historic properties or cultural resources. The Kansas Historical Society also concluded that no historic properties would be affected by the proposed project. In response to tribal consultation requests, responses were received from the Kickapoo Tribe of Indians in Kansas, the Osage Nation of Oklahoma, the Prairie Band Potawatomi Nation, and the Iowa Tribe of Kansas and Nebraska. All four tribes expressed no objections to the proposed project (See Section 3.2.2.4 and Attachment C-7 in Appendix C of the EA).

A primary area of environmental concern for the operation of wind turbines is the potential to injure or kill birds and bats. Analysis in the final EA indicates that the proposed project is not likely to adversely affect bat species and would have no adverse effects on federally listed species. Recommendations as

described in the United States Fish and Wildlife Service (USFWS) *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* (2003) were included in the siting, design and installation plans for the El Dorado Wind Energy Project. In addition, El Dorado has incorporated and will implement several of the best management practices (BMPs) from the USFWS Wind Turbine Guidelines Advisory Committee's Site Development and Construction BMPs. Based on the analysis in the final EA, DOE determined that impacts to biological resources were not significant (See Section 3.2.2.6 of the EA).

According to an FAA letter dated September 28, 2010, the initial aeronautical study performed for the proposed project indicated the project would be a presumed hazard to air navigation. The FAA indicated that a favorable determination could be made if the structure height was reduced to 306 feet (93 meters) above ground level or if the FAA performed additional studies for the original height (330 feet/101 meters). The City of El Dorado requested that the FAA perform the additional study of the original tower height. The FAA performed the requested study and issued a "Determination of No Hazard to Air Navigation" letter to the City of El Dorado. The Determination was subject to review if an interested party filed a petition. No petitions were received by the FAA and the determination became final on January 10, 2011 (See Section 3.2.2.7.5 of the EA).

FLOODPLAIN STATEMENT OF FINDINGS: The El Dorado Wetlands and Water Reclamation Facility is located in the 100-year floodplain, and the regulatory floodway, of the Walnut River, as shown in Appendix A – Figure 13 of the final EA; therefore, DOE conducted a floodplain assessment pursuant to Executive Order 11988, Floodplain Management, and DOE implementing regulations at 10 CFR Part 1022, "Compliance with Floodplain and Wetland Environmental Review Requirements" (see Attachment D-7, Appendix D of the EA). Section 2.3.3 of the EA, as well as the floodplain assessment, describes the project alternatives considered by the City of El Dorado. The proposed project area is currently leased for crop production. Implementation of the proposed project would temporarily impact the floodplain/floodway during excavation and trenching activities associated with the construction of the wind turbine foundation/tower and/or the installation of underground electrical connections to the Wetlands and Water Reclamation Facility. After completion of these activities, the affected floodplain areas would be graded, seeded, and restored to their previous condition. The proposed project will require a No-Rise certification be obtained from the Assistant City Engineer to ensure that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base (100-year) flood event. Discussions with the City's Assistant Engineer during the development of the final EA indicated that based on the information available for the proposed project, no adverse effects regarding floodplain issues or the issuance of a No-Rise Certification are anticipated. Therefore, DOE expects no long-term adverse direct or indirect impacts to the beneficial values of the 100-year floodplain and regulatory floodway of the Walnut River (See section 3.2.2.12.2 of the EA).

PUBLIC PARTICIPATION IN THE EA PROCESS: In accordance with applicable regulations and policies, DOE sent a scoping notice on September 13, 2010, to federal, state, and local agencies; tribal governments; elected officials; businesses; organizations and special interest groups; providing 15 days to submit comments regarding the EA's scope. DOE published the Notice of Scoping online at the DOE Golden Field Office Public Reading Room and City of El Dorado website. The recommended avenues of inquiry within the letters were addressed within the final EA. In response to the scoping notices, a total of two comments were received; one from the Federal Aviation Administration (FAA) and one from the U.S. Environmental Protection Agency (EPA). These documents are included in Attachment D-1 in Appendix D of the EA.

In addition, DOE initiated consultation with the U.S. Fish and Wildlife Service (USFWS), the Kansas State Historical Society (KSHS), the Kaw Nation, the Kickapoo Tribe of Indians in Kansas, the Osage Nation of Oklahoma, the Prairie Band of Potawatomi Nation, the Sac and Fox Tribe of Missouri in Kansas and Nebraska, the Iowa Tribe of Kansas and Nebraska, and the Wichita and Affiliated Tribes. Appendix C of the final EA contains copies of consultation letters and responses, as well as other agency communications initiated as part of the final EA.

DOE published the draft EA online at the Golden Field Office Public Reading Room and the DOE NEPA Website for a 15-day review period which ended December 31, 2010². Postcards announcing the Notice of Availability (NOA) were mailed to stakeholders (Attachment D-1 in Appendix D of the EA) and the NOA was published online on the DOE NEPA Website. The NOA was also published in the Wichita Eagle newspaper on December 14, 2010, and the El Dorado Times newspaper on December 15, 2010. DOE received four comments during the comment period from the USFWS, the Kansas Department of Agriculture (two comments) and the Kansas Water Office. The comments and responses to comments were incorporated into the final EA and are located in Appendix E of the EA.

DETERMINATION: Based on the information presented in the final EA (DOE/EA 1833), DOE determined that the Proposed Action would not constitute a major federal action significantly affecting the quality of the human environment within the context of NEPA. Therefore, the preparation of an EIS is not required and DOE is issuing this FONSI.

The applicant has committed to obtain and comply with federal, state and local permits and applicable regulations required for construction, operation and eventual decommissioning of the Wind Energy Project. Necessary permits and applicant committed measures can be found in Sections 2.4 and 2.5 of the EA and shall be incorporated and enforceable through DOE's financial assistance agreements.

The final EA is available at: http://www.ecre.energy.gov/golden/Reading_Room.aspx and the DOE NEPA website at <http://nepa.energy.gov>.

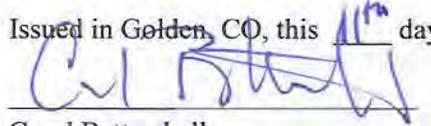
For questions about this FONSI, contact:

Amy Van Dercook
NEPA Document Manager
U.S. Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3305
Phone: 720.356.1666
E-mail: amy.vandercook@go.doe.gov

For further information about the DOE NEPA process, contact:

Office of NEPA Policy and Compliance
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
202-685-4600 or 1-800-472-2756

Issued in Golden, CO, this 11th day of February, 2011.


Carol Battershell
Manager, DOE Golden Field Office

² The comment period was extended for one additional day as the EA was not officially posted on line until December 16, 2010.