

Cathryn J. Dinges
Senior Corporate Counsel



March 31, 2015

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, Kansas 66604

RE: In the Matter of the Application of Westar Energy, Inc. for a Siting Permit for the Construction of a 345 kV Transmission Line in Riley and Pottawatomie Counties, Kansas

To Whom it May Concern:

Westar Energy, Inc. (Westar) filed its Application and Supporting Testimony in the above-referenced docket on February 20, 2015. In the Direct Testimony of Julie Lux and Kelly Harrison filed with the Application, Westar stated that the costs of the Jeffrey to East Manhattan transmission line would be 100% regionally allocated. Westar based these statements on information it received by email from Southwest Power Pool, Inc. (SPP) prior to filing. Subsequent to filing, Westar learned that SPP had changed its position regarding how the costs of the project would be allocated. As a result, Westar is filing corrected versions – clean and redlined – of the Direct Testimony of Kelly Harrison and Julie Lux to reflect the new information received from SPP.

Sincerely,

/s/ Cathryn Dinges

Cathryn J. Dinges

cc: All parties

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

DIRECT TESTIMONY

OF

KELLY B. HARRISON

WESTAR ENERGY

DOCKET NO. 15-WSEE-365-MIS

I. INTRODUCTION

1

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Kelly B. Harrison, 818 South Kansas Avenue, Topeka, Kansas
4 66612.

5 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

6 A. Westar Energy, Inc. (Westar). I am Vice President, Transmission. I
7 am responsible for transmission line and substation planning,
8 engineering, construction, and maintenance.

9 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
10 **PROFESSIONAL EXPERIENCE.**

11 A. I received a B.S. Degree in Electrical Engineering in 1981, a M.S.
12 Degree in Engineering Management Science in 1985 and a M.B.A.
13 in 1994, all from Wichita State University. Following my graduation
14 in 1981, I began work at Kansas Gas and Electric Company (KG&E)

1 as an engineer in the System Planning department. I held various
2 engineering positions until 1987 when I was promoted to Supervisor
3 of Planning and Forecasting in the Rate department. I was promoted
4 to Manager of Planning and Forecasting in 1988, and I remained in
5 that position after the acquisition of KG&E by The Kansas Power and
6 Light Company (now Westar) in March 1992. From March 1992 until
7 October 1999, I held various positions in the Regulatory Affairs
8 department. In October 1999, I became Senior Director,
9 Restructuring and Rates. In 2001, I was named Executive Director,
10 then Vice President, Regulatory in December 2001. In March 2006,
11 I became Vice President, Transmission Operations and
12 Environmental Services. I assumed my current responsibilities in
13 August 2011.

14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. I will provide an overview of the filing and will discuss the need for
16 and benefits that will result from the proposed transmission project.
17 I also describe the basics of the process used by Westar to
18 determine the preferred route for the proposed line.

19 **II. OVERVIEW OF FILING**

20 **Q. WHAT IS THE PURPOSE OF THIS FILING?**

21 A. This application seeks Commission approval for Westar to site and
22 construct a new transmission line to replace the existing 230 kV
23 transmission line from Westar's Jeffrey Energy Center (JEC)

1 Substation, located northwest of St. Marys, to Westar's East
2 Manhattan Substation located near Manhattan. The new
3 transmission line will be engineered and constructed to 345 kV
4 standards, but will continue to operate at 230 kV. At an
5 undetermined date in the future another project is expected to be
6 authorized by the SPP to convert this transmission line from 230 kV
7 to 345 kV.

8 The filing substantiates the need for the line and details the
9 extensive siting process that was used to select a preferred route.
10 The filing includes testimony and exhibits that: 1) describe the
11 preferred route for the line, 2) list all affected landowners whose land
12 would be crossed by the preferred route or whose land lies within
13 1,000 feet of the centerline of the preferred route, 3) summarize the
14 environmental characteristics of the areas studied for siting the line;
15 and 4) explain the benefits of the proposed line to Kansas electric
16 customers, electric customers in the region, and economic
17 development within Kansas.

18 **Q. IS THE LINE FOR WHICH WESTAR SEEKS SITING AUTHORITY**
19 **INTEGRAL TO WESTAR'S PROVISION OF ELECTRIC SERVICE**
20 **IN KANSAS?**

21 A. Yes, in at least two important ways. First, Westar's witnesses
22 demonstrate the benefits and enhanced reliability from this new line
23 for Westar's retail and wholesale customers in Kansas, for other

1 Kansas electric utilities and their customers, and for the entire
2 Southwest Power Pool (SPP) region.

3 Second, constructing this line is consistent with Westar's
4 business plan of being a basic Kansas electric utility. Westar is
5 capable of financing, engineering, constructing and maintaining this
6 and other major new expansions of the transmission grid. Such
7 investment opportunities in new transmission lines traversing our
8 service territory are essential for Westar to succeed in its business
9 strategy of modest growth and moderate returns.

10 **Q. PLEASE DESCRIBE THE BENEFITS THAT WILL BE REALIZED**
11 **AS A RESULT OF WESTAR'S COMPLETION OF THIS LINE.**

12 A. Under certain contingencies, the existing 230 kV transmission line is
13 overloaded and creates a restriction in the transmission system. This
14 condition limits the ability to move electric power away from Jeffrey
15 Energy Center and may cause Westar to purchase electric energy
16 from other sources at higher costs. Along with providing a remedy
17 for this issue, the new line will contribute to a stronger, more robust
18 transmission grid, with Kansans and the entire region benefiting from
19 increased reliability. Further, reconstruction of the JEC to East
20 Manhattan line will provide for more efficient use of existing Westar
21 generation resources and reduce line losses.

22 **Q. HOW MUCH WILL IT COST TO CONSTRUCT THE NEW LINE?**

1 A. We currently estimate that it will cost approximately \$58.3 million to
2 construct Westar's portion of the line and the required substation
3 upgrades. This is an estimate that could change after we have an
4 approved route and as we move toward final design of the line. The
5 cost to construct the line will be affected by numerous factors.
6 Among the items that will affect construction costs are changes to
7 the preferred route; changes in prices of metals such as copper,
8 nickel, steel, and aluminum that affect the cost of poles, wire, and
9 other components of the line; changes in labor costs as the demand
10 for workers with the necessary skills to construct transmission
11 facilities increases; structure design; and the actual cost to acquire
12 necessary rights-of-way.

13 **Q. HOW WILL THE COST OF THE LINE BE RECOVERED?**

14 A. Because the line has been approved by the SPP as a base plan
15 project, under the highway-byway method 33% of the costs
16 associated with the project will be allocated regionally and the
17 remaining 67% of the costs will be allocated to the Westar pricing
18 Zone. Westar witness Julie Lux will further discuss how the cost of
19 the line will be recovered.

Deleted: all of the costs associated with the project will be allocated regionally across the SPP's eight state footprint on a load-ratio share basis under the highway-byway allocation method

20 **Q. WHEN DOES WESTAR EXPECT THE LINE TO BE IN SERVICE?**

21 A. We expect the line to be completed and in service in June of 2017.

22 **Q. WILL WESTAR PRESENT OTHER TESTIMONY IN THIS CASE?**

1 A. In addition to my testimony, Westar is submitting testimony from the
2 following witnesses:

3 Julie Lux, Westar Energy - Director of Regulatory Compliance
4 – discussing the method through which Westar’s costs for
5 building the proposed line will be recovered and charged to
6 customers; and

7 Kristi Wise, Burns and McDonnell Engineering - Project
8 Manager– discussing the preferred route for the line and the
9 siting process that was used to select the preferred route.

10 Westar understands that the SPP will be submitting testimony
11 in support of Westar’s application within a few days of Westar’s filing
12 with the Commission. In that testimony, SPP will present the results
13 of the benefit-cost analysis it conducted when deciding whether to
14 authorize construction of the project for which Westar is requesting
15 siting approval.

16 **III. DESCRIPTION OF THE PROPOSED PROJECT**

17 **Q. DESCRIBE THE PROJECT AND THE PREFERRED ROUTE**
18 **PROPOSED BY WESTAR IN THIS DOCKET.**

19 A. This project involves replacing the existing single circuit 230 kV line
20 from JEC to East Manhattan. The new line will be a single circuit line
21 engineered and built to 345 kV standards with larger bundled
22 conductor. The new line will continue to be operated at 230 kV, but
23 the larger bundled conductor will eliminate the restrictions identified
24 by the SPP modeling. The new line will connect to Westar’s JEC
25 Substation and Westar’s East Manhattan Substation. Westar’s
26 project will also involve upgrading components in both substations to

a minimum emergency rating of 2,000 amps. Figure 1 is a map depicting the location of the existing 230 kV line that we are replacing.

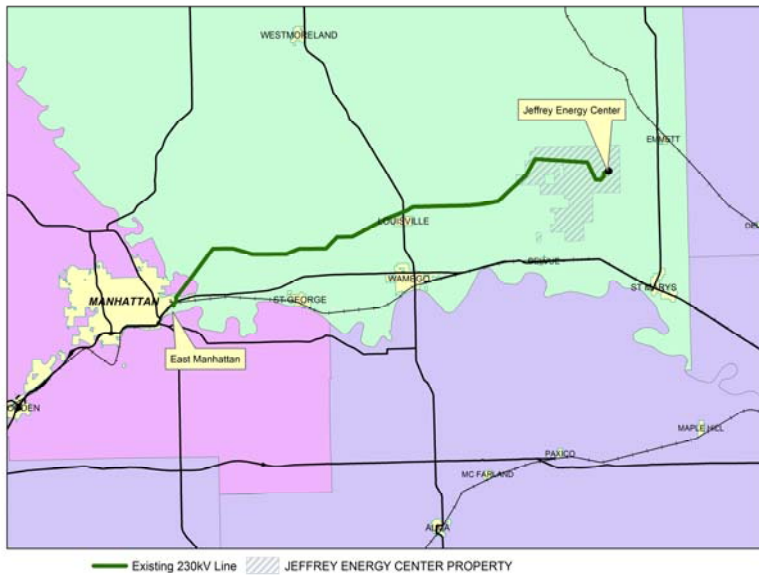


Figure 1

The final preferred route selected by Westar runs near the existing transmission line through Riley and Pottawatomie Counties and is approximately 25.6 miles long. An overview of the final preferred route is shown below as Figure 2. Detailed maps of the final preferred route that Westar is submitting for approval are shown as Exhibit KBH-1, Sheets 1 through 22.

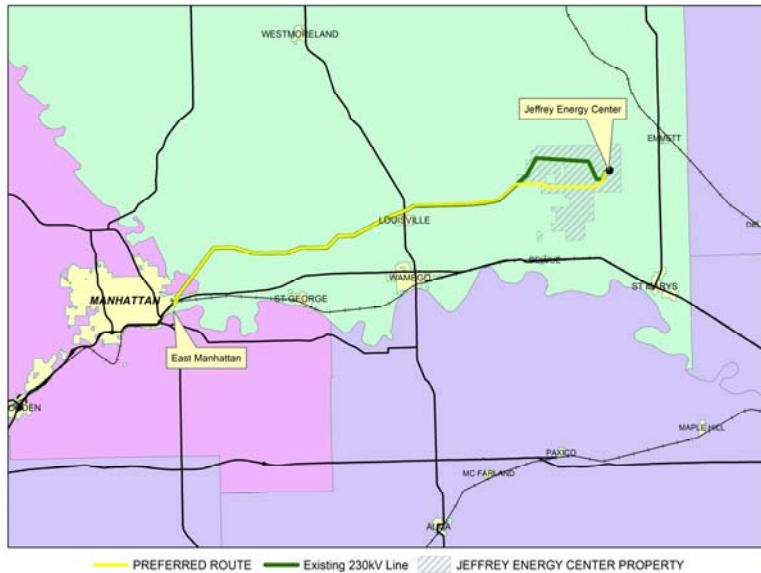


Figure 2

Q. PLEASE DESCRIBE HOW THE JEC to EAST MANHATTEN PROJECT WAS IDENTIFIED AS A TRANSMISSION PROJECT.

A. The Integrated Transmission Plan (ITP) is SPP's approach to planning transmission needed to maintain reliability, provide economic benefits, and achieve public policy goals to the SPP region in both the near and long-term. The ITP enables SPP and its stakeholders to facilitate the development of a robust transmission grid that provides regional customers improved access to the SPP region's diverse resources. Development of the ITP is driven by planning principles developed by the Synergistic Planning Project Team (SPPT), a team that I served on, including the need to develop

1 a transmission backbone large enough in both scale and geography
2 to provide flexibility to meet SPP's future needs.

3 The first phase of the ITP study process was completed with
4 the SPP Board of Directors' acceptance of the 2010 ITP 20-year
5 (ITP20) Report on January 25, 2011. A group of Network Upgrade
6 projects, including the JEC to East Manhattan project, was
7 subsequently approved by the SPP Board of Directors as part of
8 2014 Integrated Transmission Planning Near-Term (ITPNT)
9 Assessment on January 28, 2014.

10 The ITP Near-Term Assessment is performed annually and
11 assesses system upgrades, at all applicable voltage levels required
12 in the near term planning horizon to address reliability. The ITP
13 Near-Term assessment used two scenario models built across
14 multiple years and seasons to evaluate power flows across the grid
15 to account for various system conditions across the near-term
16 horizon. The goals of the ITP Near-Term are to:

- 17 a) Resolve potential reliability criteria violations;
- 18 b) Improving access to markets;
- 19 d) Improving interconnections with SPP's neighbors
- 20 e) Meeting expected load growth demands
- 21 f) Facilitating or responding to expected facility retirements

1 The SPP ITP Near-Term assessment identified the reliability
2 need to replace the existing 230 kV JEC to East Manhattan
3 transmission line due to overloading conditions.

4 **Q. DID WESTAR PERFORM A STUDY OF THE TRANSMISSION**
5 **SYSTEM TO VERIFY THE SPP STUDY RESULTS?**

6 A. Westar did not perform any additional studies outside of the SPP ITP
7 Near-Term Assessment to address the loading on the 230 kV JEC
8 to East Manhattan transmission line. However, Westar and other
9 transmission entities directly participate in the ITP study process by:

- 10 a) Providing and reviewing model data;
11 b) Confirming results;
12 c) Providing feedback and solutions for potential violations.

13 **Q. DID WESTAR PROVIDE A SOLUTION TO SPP TO REMEDY THE**
14 **OVERLOADING CONDITION OF THE EXISTING 230 kV**
15 **TRANSMISSION LINE?**

16 A. Yes. To address the overload of the existing East Manhattan to
17 Jeffrey Energy Center 230 kV line, Westar proposed rebuilding the
18 230 kV line from East Manhattan to Jeffrey Energy Center with a new
19 transmission line with increased capacity. Westar proposed that the
20 new transmission line utilize larger bundled conductor and also that
21 the line be engineered and constructed to 345 kV standards. The
22 line will be operated at 230 kV until a later point in the future. The
23 benefits of constructing the line to 345 kV standards, even though it

1 will continue to be operated at 230 kV for a period of time, include
2 the ability to more easily convert the line to 345 kV at a later date and
3 possibly to expand the line from Manhattan to the Elm Creek
4 substation or to Nebraska without having to rebuild the line at 345 kV
5 at that time. Additionally, there is minimal incremental cost difference
6 between construction to 230 kV and 345 kV standards.

7 **Q. DOES WESTAR AGREE WITH THE SPP STUDY THAT THE**
8 **PROJECT IS NEEDED AND WILL ENHANCE THE RELIABILITY**
9 **OF THE TRANSMISSION SYSTEM?**

10 A. Yes, Westar agrees with the SPP ITP Near-Term study results that
11 the 230 kV JEC to East Manhattan transmission line will need to be
12 replaced to ensure continued reliability of the transmission system.

13 The North American Electric Reliability Corporation (NERC)
14 develops and enforces Reliability Standards to address events and
15 identifiable risks, thereby improving the reliability of the bulk power
16 system. Westar is required to demonstrate through a valid
17 assessment, in this case the 2014 ITPNT Assessment, that its
18 portion of the interconnected transmission system is planned such
19 that the Network can be operated to supply projected customer
20 demands and projected Firm (non-recallable reserved) Transmission
21 Services, at all demand levels over the range of forecast system
22 demands, under the contingency conditions as defined in Category
23 B of Table I of TPL-002-2b.

1 If we do not rebuild this line, there is a risk that we will have to
2 decrease the output of Jeffrey Energy Center to reduce loading on
3 this transmission line. The existing condition on the line limits the
4 ability to move electric power away from Jeffrey Energy Center and
5 may cause Westar to purchase electric energy from other sources at
6 higher costs.

7 **Q. DID SPP AGREE WITH WESTAR'S PROPOSED SOLUTION TO**
8 **REBUILD THE EXISTING 230 kV LINE TO REMEDY THE**
9 **OVERLOADING CONDITION?**

10 A. Yes. SPP, as the Planning Coordinator, has the obligation to validate
11 and make sure the best solution is ultimately selected. SPP has the
12 right to propose alternative lower cost projects while keeping in mind
13 long-term strategic solutions. In the ITPNT, SPP identified a
14 potential overload in 2017 on the line which will require a solution to
15 maintain compliance with NERC Reliability Standards. Westar
16 submitted the project as a potential solution. After SPP testing, SPP
17 agreed with Westar's proposal and issued a Notice-To-Construct to
18 Westar. All the background information on the process is
19 documented in the 2014 Integrated Transmission Planning Near-
20 Term Assessment posted on SPP's website.

21 **Q. HAS SPP ISSUED A NOTIFICATION TO CONSTRUCT (NTC) FOR**
22 **WESTAR'S PROPOSED PROJECT?**

1 A. Yes. On February 19, 2014, SPP issued a NTC for this project to
2 Westar. The NTC was conditioned on not ordering materials or
3 beginning construction until the submittal to SPP of a refined project
4 cost estimate (CPE). The refined CPE was required to have a
5 variance bandwidth of $\pm 20\%$ not exceeding the Study Estimate
6 variance bandwidth of $\pm 30\%$. Westar could only proceed under the
7 NTC if the refined CPE was within this variance bandwidth or if the
8 SPP Board of Directors reevaluated the project if the CPE exceeded
9 the Study Estimate variance bandwidth. The NTCs identified
10 replacing the existing 230 kV line with a new line engineering and
11 constructed to 345 kV standards but operated at 230 kV voltage
12 between Westar's JEC Substation and Westar's East Manhattan
13 Substation. A copy of this initial NTC received by Westar is attached
14 as Exhibit KBH-2, Sheets 1 through 4 with our response accepting
15 the NTC attached as Exhibit KBH-2, Sheet 5 through 7.

16 **Q. HOW DID WESTAR ARRIVE AT THE REFINED PROJECT COST**
17 **ESTIMATE?**

18 A. In order to refine the project cost estimate, Westar chose to proceed
19 with a routing study to determine potential routes, thus reducing the
20 risks associated with routing uncertainty. Westar engaged Burns &
21 McDonnell to perform this study. We used the potential routes to
22 produce our CPE for the project.

1 **Q. WAS WESTAR’S CPE WITHIN THE SPP ALLOWED VARIANCE**
2 **BANDWIDTH TO RELEASE THIS PROJECT FOR**
3 **CONSTRUCTION?**

4 A. Yes. Westar’s CPE was within the variance required by SPP.

5 **Q. HAS SPP REMOVED THE CONDITIONS PLACED ON THE NTC?**

6 A. Yes. SPP removed the conditions placed on the NTC by re-issuing
7 the NTC on September 2, 2014, a copy of which is attached as
8 Exhibit KBH-2, Sheets 8 through 11. Westar’s response accepting
9 the NTC is attached as Exhibit KBH-2, Sheets 12 through 14.

10 **IV. ROUTING STUDY**

11 **Q. WHY DID WESTAR DECIDE TO PERFORM A ROUTING STUDY**
12 **SINCE THIS PROJECT INVOLVES REPLACING AN EXISTING**
13 **TRANSMISSION LINE?**

14 A. Westar reviewed the NTC requirements, the easements for the
15 existing 230 kV line, our transmission system operating parameters,
16 and the current land uses near the existing 230 kV line. We identified
17 the following challenges to replacing the line on the existing right of
18 way:

19 a) Existing 230 kV line is on easements that are only 100 feet
20 wide. A typical 345 kV line requires a 150 foot easement.

21 b) Approximately 16 miles of the east end of the 230 kV line
22 is directly adjacent to a 345 kV transmission line that
23 extends from Salina to JEC. The 230 kV line and the 345

1 kV line are approximately 125 feet apart centerline to
2 centerline.

3 c) The land use on the western end of the existing line has
4 experienced a considerable residential and commercial
5 development expansion directly next to the existing
6 transmission line.

7 d) Modeling of the transmission system indicates that we
8 cannot take the existing 230 kV transmission line out of
9 service during the summer season from June to mid-
10 September due to system needs. This limits the
11 construction period for the project to replace the line if it is
12 built on the existing right of way.

13 e) If the existing 230 kV line is taken out of service during the
14 winter, spring and fall period, it creates additional price risk
15 to customers. If any other transmission line connected to
16 the JEC substation has an issue during the outage of the
17 230 kV line, the output of JEC will need to be reduced (de-
18 rated). In this situation, Westar will be required to purchase
19 replacement power from another source. On an average
20 market day, this replacement power costs more than power
21 generated at JEC. This additional cost is passed along to
22 our customers.

1 All of the challenges noted above can be eliminated if the new line is
2 constructed on a new alignment while the existing line continues to
3 operate. We also acknowledged that many things have changed
4 since the existing 230 kV line was built in the early 1980's. Today
5 we have many more permitting requirements, environmental
6 concerns, and different land uses. After much deliberation, we
7 concluded that we needed to perform a thorough siting study to
8 determine if an alternate route could be identified. We also wanted
9 to engage the public in the process to get feedback on other potential
10 routes.

11 **Q. PLEASE DESCRIBE THE PROCESS USED TO PERFORM THE**
12 **ROUTING STUDY AND SELECT THE PREFERRED ROUTE FOR**
13 **THE LINE.**

14 A. The first step was to assemble an internal project team that consists
15 of Westar employees from Real Estate Services, Transmission
16 Planning, Transmission Operations, Transmission and Substation
17 Engineering, Transmission & Substation Construction,
18 Conservation, Corporate Communications, Government Affairs,
19 Regulatory, and Legal. With a goal of minimizing impacts to
20 landowners, residents, and the environment, we engaged the
21 consulting firm of Burns & McDonnell (BMCD) to assist us with the
22 transmission line siting process. BMCD's Ms. Wise led the siting

1 process and the attached testimony describes the routing study
2 process used to determine the preferred route.

3 **Q. WERE ANY ADJUSTMENTS MADE TO THE BURNS &**
4 **McDONNELL PREFERRED ROUTE IDENTIFIED IN THE SITING**
5 **STUDY?**

6 A. Yes. After we identified the preferred route through the Burns &
7 McDonnell siting study process, we reviewed in detail some of the
8 areas that we felt we could improve the alignment of the transmission
9 line. Specifically, there were many areas between the Louisville area
10 and the East Manhattan substation that have housing and
11 businesses on both side of the preferred routes. In these areas we
12 developed proposed routes that separated from the existing line and
13 were routed around the perimeter of the developments. In some
14 cases this caused the development to be surrounded by high voltage
15 transmission lines and added several heavy angles to the
16 transmission line. We also reviewed plans provided by landowners
17 of several platted subdivisions near the east end of the transmission
18 line. We examined potential solutions to rebuilding the line in these
19 constricted areas and determined that it is feasible, in limited areas,
20 to remove the existing line and rebuild the new line on essentially the
21 same alignment. In these limited areas, we plan to perform the
22 construction work during scheduled JEC plant outages and use
23 alternate construction techniques to work under the existing 230 kV

1 line. After careful consideration of all the factors, we believe it is best
2 to utilize the existing right-of-way and place the majority of the new
3 line on the same right-of-way as the existing 230 kV line in the area
4 from the Louisville cemetery to the East Manhattan substation.
5 Although we are utilizing the existing right-of-way in this area, we will
6 require some additional easements nominally between 25 and 50
7 feet wide on each side of the existing easement. We believe this
8 decision to utilize the existing right-of-way also reflects the wishes of
9 the landowners in these areas and improves the preferred route.

10 **Q. WERE ANY OTHER ADJUSTMENTS MADE TO THE**
11 **PREFERRED ROUTE IDENTIFIED IN THE BURNS & MC**
12 **DONNELL SITING STUDY?**

13 A. Yes. At the east end of the preferred route, the line is routed on
14 property owned by Westar Energy near JEC for approximately 6
15 miles. The alignment of the preferred route was modified on Westar
16 Energy property to avoid newly permitted landfill areas that are
17 directly under the existing 230 kV line. These changes reduced the
18 overall line mileage and the full width of the right-of-way will be on
19 property owned by Westar Energy. Westar also requests that the
20 KCC allow additional flexibility to revise the route on JEC property in
21 the future. We have not fully identified the below ground utilities at
22 this time and our plans for permitted landfills on JEC property

1 continue to develop. It may be necessary to adjust the alignment
2 once these items have been finalized.

3 **Q. PREVIOUSLY YOU LISTED MANY CHALLENGES TO**
4 **REBUILDING THE LINE ON THE EXISTING RIGHT-OF-WAY,**
5 **HOW WERE THESE CHALLENGES ADRESSED FOR THE**
6 **PREFERRED ROUTE?**

7 A. Westar was able to develop a plan to construct a portion of the
8 preferred route on the existing right-of-way during scheduled JEC
9 outages that occur outside of the summer season. Westar also
10 believes that we can perform some of the work, such as installing
11 drilled piers, hauling structures, and framing structures under the de-
12 energized, but not dismantled, existing line. Should we have an
13 unplanned event on another transmission line connected to the JEC
14 substation, we have the flexibility to stop the construction activities,
15 move crews and equipment out from under the existing 230 kV line
16 and re-energize the line.

17 **Q. WHAT OBJECTIVES DID WESTAR PURSUE IN CHOOSING**
18 **POTENTIAL ROUTES FOR THE PROPOSED TRANSMISSION**
19 **LINE?**

20 A. The objective of the routing analysis was to identify economically
21 feasible routes that connect JEC and the East Manhattan Substation.
22 Routes were developed that offered the most benefits in terms of
23 providing reliable electric power transmission and also minimized

adverse impacts to the social and natural environment. The major concerns during the development of potential routes were to:

- 1) Maximize the distance of the line from existing homes, businesses and public buildings,
- 2) Maintain reliable electric service by developing realistic and feasible routes,
- 3) Minimize overall environmental impacts by maximizing the use of existing road and transmission line rights-of-way,
- 4) Minimize, to the extent practicable, diagonal routes across tilled agricultural fields,
- 5) Avoid impacts to private airstrips in the project area,
- 6) Avoid impacts to any existing center-pivot irrigation system by locating the lines along the tangent of the system's arc,
- 7) Avoid crossing directly over oil wells, water wells and oil storage tanks, and
- 8) Minimize potential impacts to wetlands and other environmentally sensitive areas, threatened and endangered species and lesser prairie chicken habitat.

Q. WAS WESTAR ABLE TO IDENTIFY A ROUTE THAT AVOIDED ALL IMPACTS?

1 A. No. The routing study comprised 55 individual segments that could
2 be combined to form 5,304 alternate routes. Even though we studied
3 numerous alternate routes, it was not possible to find a route that
4 avoided all impacts. The routing study was successful in identifying
5 the routes that had least amount of impact and was instrumental in
6 selecting the preferred route that we are seeking to be approved.

7 **Q. HOW WERE LANDOWNERS INFORMED OF WESTAR'S INTENT**
8 **TO SOLICITE FEEDBACK REGARDING POTENTIAL ROUTES**
9 **REGARDING CONSTRUCIOTN OF THE NEW LINE?**

10 A. Once the potential routes were finalized, we used property
11 ownership data from each county to identify the landowners within
12 1000 feet of the centerline of each of the potential routes. The
13 potential routes were located in Pottawatomie and Riley counties in
14 north-east Kansas. Burns & McDonnell obtained digital property
15 ownership data for all property owners who own property located
16 within 1,000 feet of the proposed routes from Pottawatomie and Riley
17 counties.

18 Using information gathered in this manner, we sent a letter to
19 each landowner to advise him/her that Westar was proposing to
20 construct a new high-voltage line near his/her property and inviting
21 each of them to the open houses. We identified the dates, times and
22 locations of the December open houses in the letter. Copies of the

1 form invitation letter are shown in Exhibit KBH-3, Sheets 1 through
2 3.

3 The potential routes under consideration were shown to the
4 public by Westar at two open house meetings in early December
5 2014 in order to gather additional input from area landowners. Open
6 houses were held in the Wamego Senior Center on December 3 and
7 4, 2014. At each open house, Westar representatives provided
8 information on the purpose and need for the project and potential
9 routes (shown on aerial photographs and maps of the project area).
10 Burns & McDonnell attended the open houses using five computer
11 stations with operators that allowed landowners to zoom in to their
12 respective properties, measure distances to potential routes, and
13 provide feedback that was captured electronically in real time. We
14 also provided information on the design and construction of the
15 project, typical land requirements for the new line, and the process
16 Westar will use to obtain easements. During these public meetings,
17 Westar and Burns & McDonnell made notations to the maps and
18 photos with information provided by the area landowners for
19 consideration during the route selection process.

20 At the open houses, Westar representatives also handed out
21 project fact sheets and questionnaires included as Exhibit KBH-3,
22 Sheets 4 through 8. Participants were encouraged to complete the
23 questionnaires and turn them in before leaving the open house or to

1 mail them in at a later date. Some people who were unable to attend
2 the open houses later called Westar and requested information or
3 provided comments. These individuals were provided information as
4 requested. A total of 209 responses were received from those who
5 attended the open houses or requested individual information. A
6 detailed summary of the questionnaire results is presented as part
7 Ms. Wise's testimony.

8 **Q. HOW WIDE WILL THE RIGHT-OF-WAY BE FOR THE PROPOSED**
9 **LINE?**

10 A. The nominal width of the right-of-way will be 150 feet. However, the
11 right-of-way could be more or less in specific areas depending on
12 span length, conductor sag and wind characteristics. The final right-
13 of-way width will be determined during detailed design.

14 **Q. WILL LANDOWNERS BE ABLE TO USE THE LAND ON WHICH**
15 **THE LINE WILL BE CONSTRUCTED?**

16 A. Yes. Landowners will be able to use the line right-of-way for any
17 agricultural purpose that does not interfere with use of the line at its
18 full rated capacity. However, landowners will not be permitted to
19 conduct business in the right-of-way that would be hazardous to the
20 landowner, the line, or the general public (such as a pipe storage
21 yard or tree farm). No foreign structures or buildings will be permitted
22 in any part of the right-of-way. Trees and brush in the right-of-way
23 will be trimmed or removed. Herbicides will be used to control the

1 re-growth of woody vegetation in the right-of-way except in the case
2 of certified organic farms or similar situations.

3 **Q. WILL WESTAR OBTAIN EASEMENTS FOR THE RIGHT-OF-WAY**
4 **ON WHICH THE LINE WILL BE CONSTRUCTED?**

5 A. Yes. Easements will be obtained from landowners prior to
6 construction of the proposed line. Landowners will also be
7 compensated for all damages including crop losses that are directly
8 attributable to construction of the proposed line.

9 **Q. HAS WESTAR TAKEN STEPS TO MINIMIZE EXPOSURE TO**
10 **ELECTROMAGNETIC FIELDS?**

11 A. Yes. Westar took the electromagnetic field produced by operation of
12 the line into consideration when establishing its route siting criteria.
13 Westar does not consider electromagnetic fields to be a health threat
14 based on published information. However, Westar has adopted a
15 prudent avoidance approach to the siting of all electric facilities. This
16 approach is characterized by the siting of transmission facilities in a
17 manner that minimizes exposure to electromagnetic fields. A
18 minimum horizontal clearance distance of 50 feet from the closest
19 phase of the line to existing dwellings will be maintained wherever
20 possible.

21 **Q. HOW WILL WESTAR MITIGATE THE EFFECT OF THE ELECTRIC**
22 **AND MAGNETIC FIELDS PRODUCED BY THE PROPOSED**
23 **LINE?**

1 A. Non-electric wire fence within 150 feet of the center of the line right-
2 of-way will be grounded at intervals to limit the electromagnetically
3 induced level of static charges to a safe level. Wire fences that cross
4 the line route will be grounded at both edges of the right-of-way.
5 Electric fences will be grounded where necessary with the addition
6 of a 60 Hz series filter at each grounding location. Permanently
7 installed metallic objects within 150 feet of the outside phase
8 conductor of the line will be grounded. Conductor minimum ground
9 clearance will be chosen to limit induced voltage in ungrounded
10 metallic objects (such as a vehicle parked near the line) to a value
11 that keeps induced current to less than 5 milli-amperes.

12 **Q. PLEASE DESCRIBE WHAT WESTAR HAS DONE TO MINIMIZE**
13 **THE ENVIRONMENTAL IMPACT OF THE LINE?**

14 A. Westar has a stated objective to minimize adverse social and
15 environmental impacts of the line. To accomplish this objective,
16 Westar avoided all major environmental constraints and utilized
17 criteria to select the line's route that by design prevent or minimize
18 social and environmental impacts. Westar has followed and will
19 continue to adhere to the recommendations given by state and
20 federal agencies for procedures that protect the biological, cultural,
21 and historical resources for the areas traversed by the line.

V. TRANSMISSION LINE AND SUBSTATION DESIGN

Q. HOW WILL THE NEW 345 KV TRANSMISSION LINE BE DESIGNED?

A. Detailed design work for the proposed line has not yet been done, but we can describe designs that are typical for a line of this type. The proposed line will be constructed using steel tubular structures in either a single pole or H-frame configuration. The structures would be spaced approximately 600 to 1200 feet apart. Tangent structures will either be directly embedded using a crushed rock backfill or placed on concrete pier foundations, depending on the soil conditions encountered. The minimum ground clearance for the line will conform to 345 kV circuit standards required by the National Electric Safety Code. Drawings of typical H-frame and single pole structures are provided in Exhibit KBH-4, Sheets 1 through 5. The height of these structures will vary depending on span length, required clearances, and local terrain, but will typically range between 80 and 160 feet.

The proposed line will be constructed using 1590 KCM-ACSR 45/7 (Code Name "Lapwing"), aluminum, steel-reinforced conductors. This conductor is composed of 45 strands of aluminum wrapped around 7 steel strands. This line will utilize a two-conductor bundle for each of the three phases. The diameter of each conductor comprising the two-conductor bundle will be 1.502 inches. The two

conductors in each bundle will be approximately 18 inches apart and will be arranged in a horizontal bundle. In a conductor of this type, the aluminum strands carry the load current; the mechanical strength to support the conductors is provided by the steel core. Non-ceramic suspension insulators will be used to suspend the bundled phase conductors.

The line will be protected from lightning by two overhead ground wires strung at the uppermost extremity of the supporting structures. One shield wire will be a steel cable and one will be comprised of ten strands of aluminum-coated steel (alumoweld) wire wrapped around a centrally located aluminum alloy pipe that contains a number of optical fibers. The optical fibers will be used as a communications medium for line protective relaying and for internal communications.

Q. PLEASE DESCRIBE THE DESIGN OF THE SUBSTATION EQUIPMENT FOR THIS PROJECT.

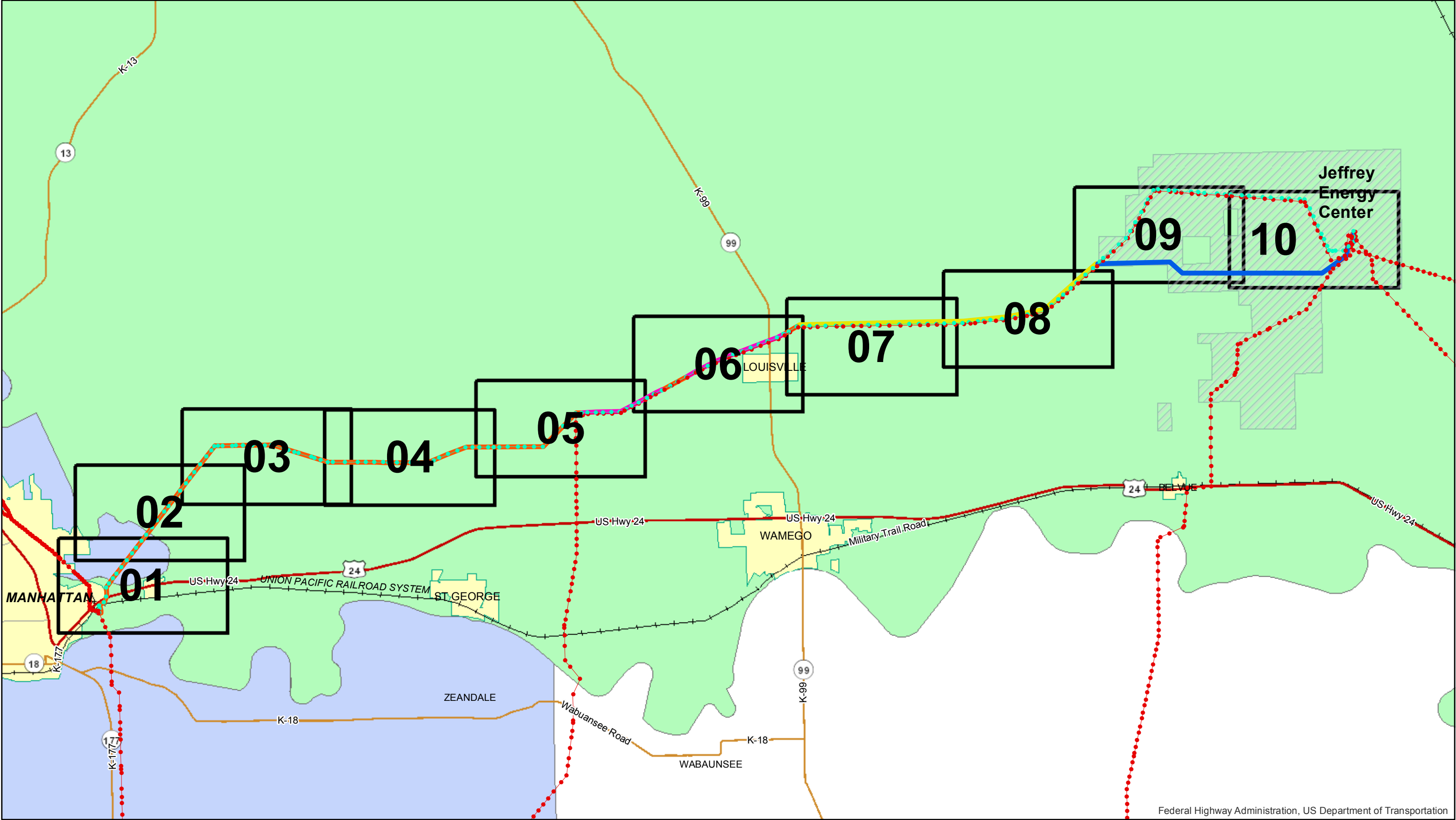
A. At both the JEC Substation and the East Manhattan Substation the terminal equipment will be upgraded to carry a minimum emergency rating of 2,000 amps. We do not anticipate any major substation expansion work since the new line will continue to be operated at 230 kV on the same terminals. We will need to remove the wave traps and upgrade the equipment to utilize fiber optic protection and control systems along with replacing the breaker control panels.

VI. CONCLUSION

Q. DO YOU HAVE ANY CONCLUDING COMMENTS?

A. Yes. The Commission should grant Westar a siting permit for the proposed line. Westar's analysis demonstrates that: 1) the line will provide substantial economic benefits to Kansas electric customers and the SPP region and will support economic development in Kansas; 2) the SPP has authorized construction of the line; and 3) the siting process Westar used was reasonable and appropriate.

Q. THANK YOU.



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

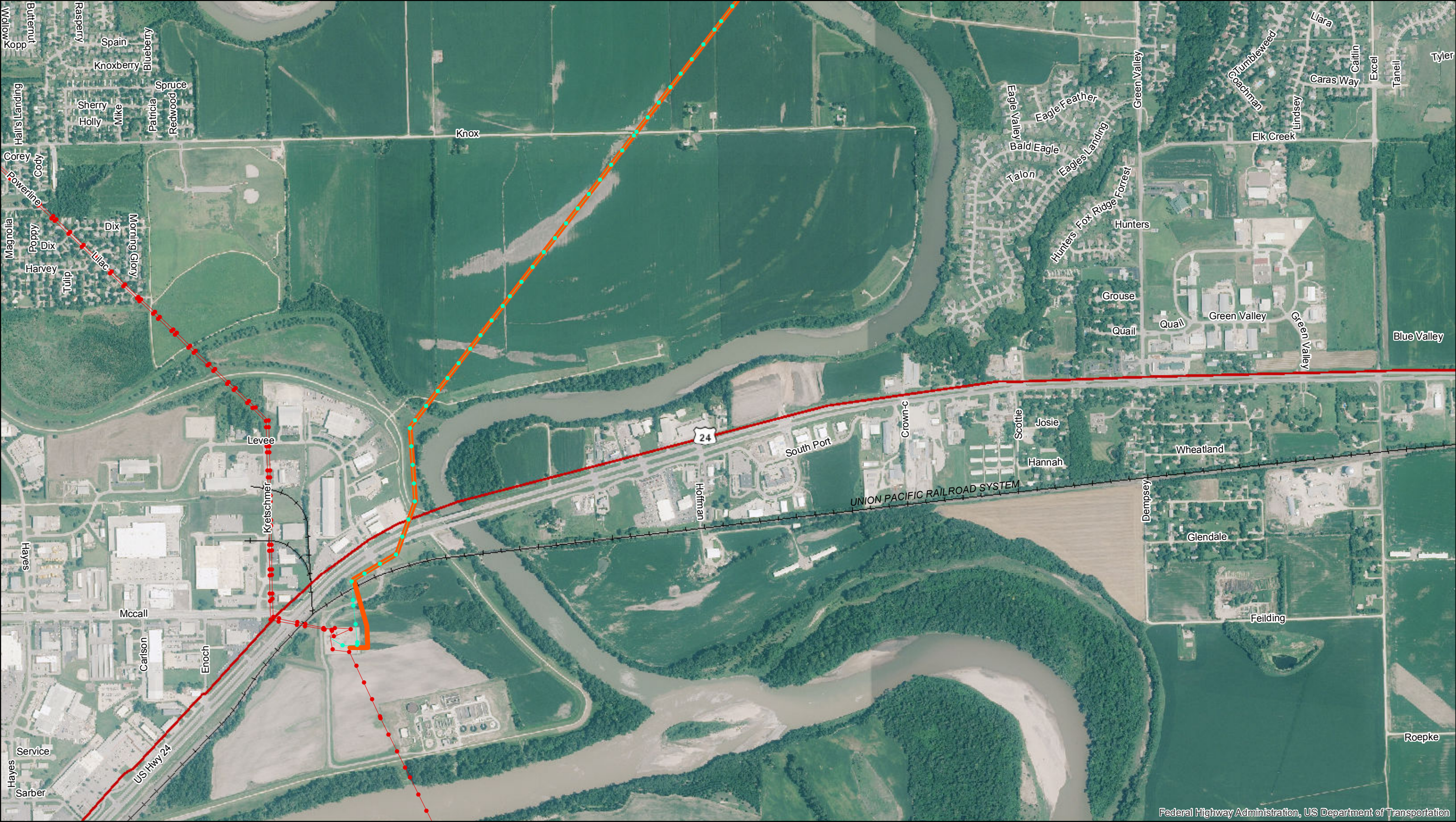
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Date: 2-16-15

Sheet No. 1

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 2

Exhibit KBH-1



Weststar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 3

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 4

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

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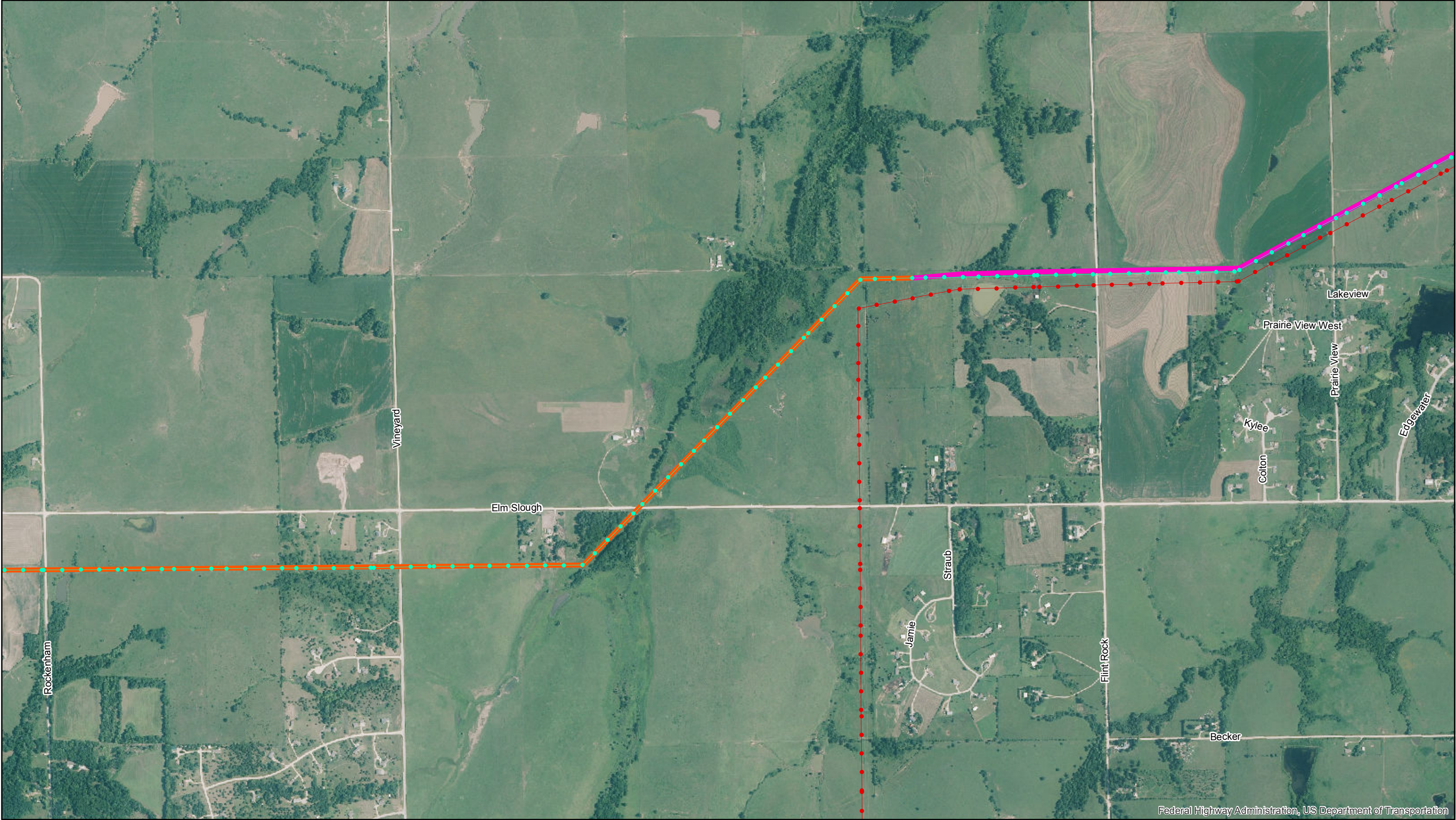
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Date: 2-16-15

Sheet No. 5



Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

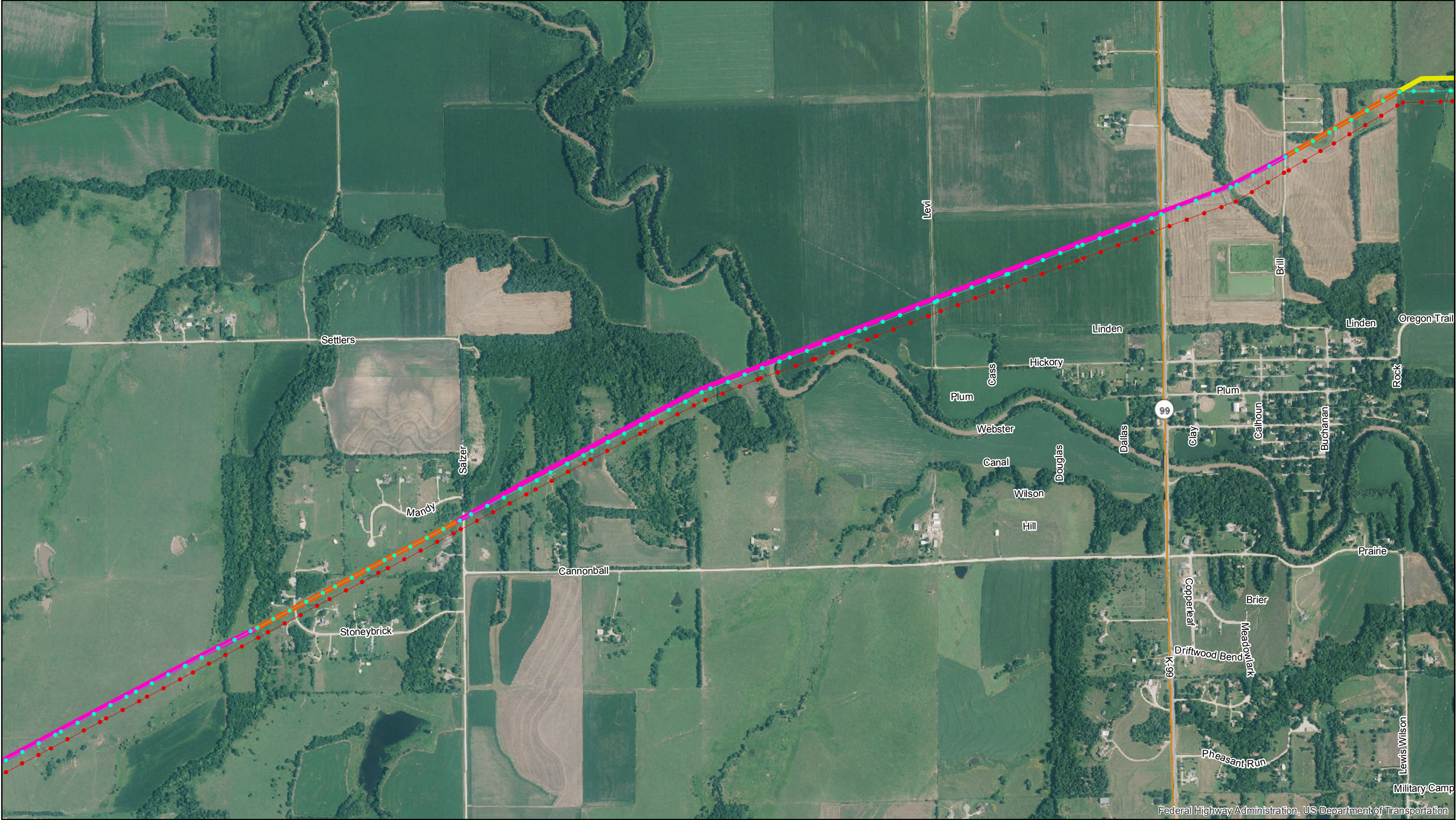
 WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 6



Westar Preferred Route Submitted for KCC Approval


ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

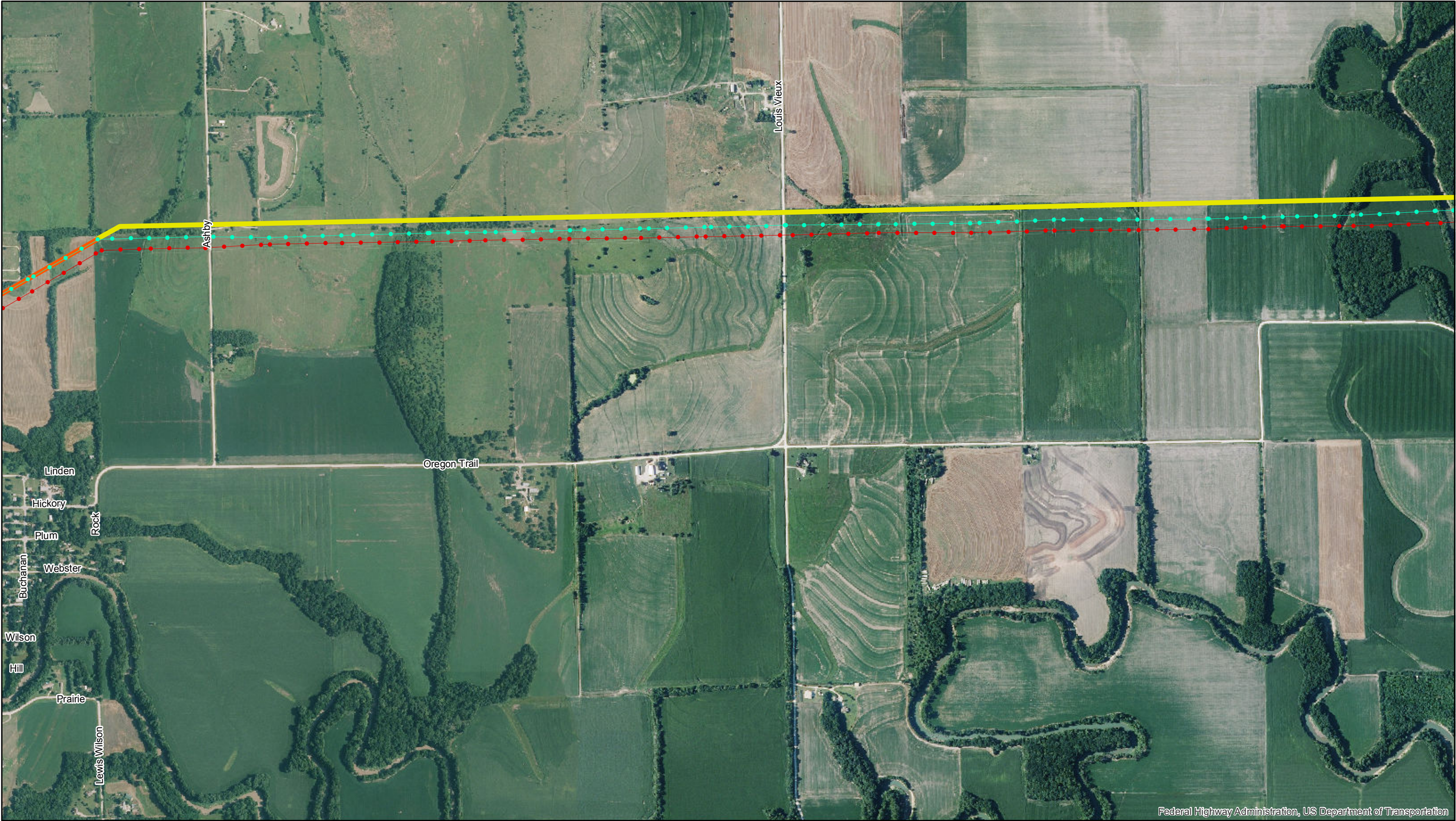
 WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 7



Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

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Feet

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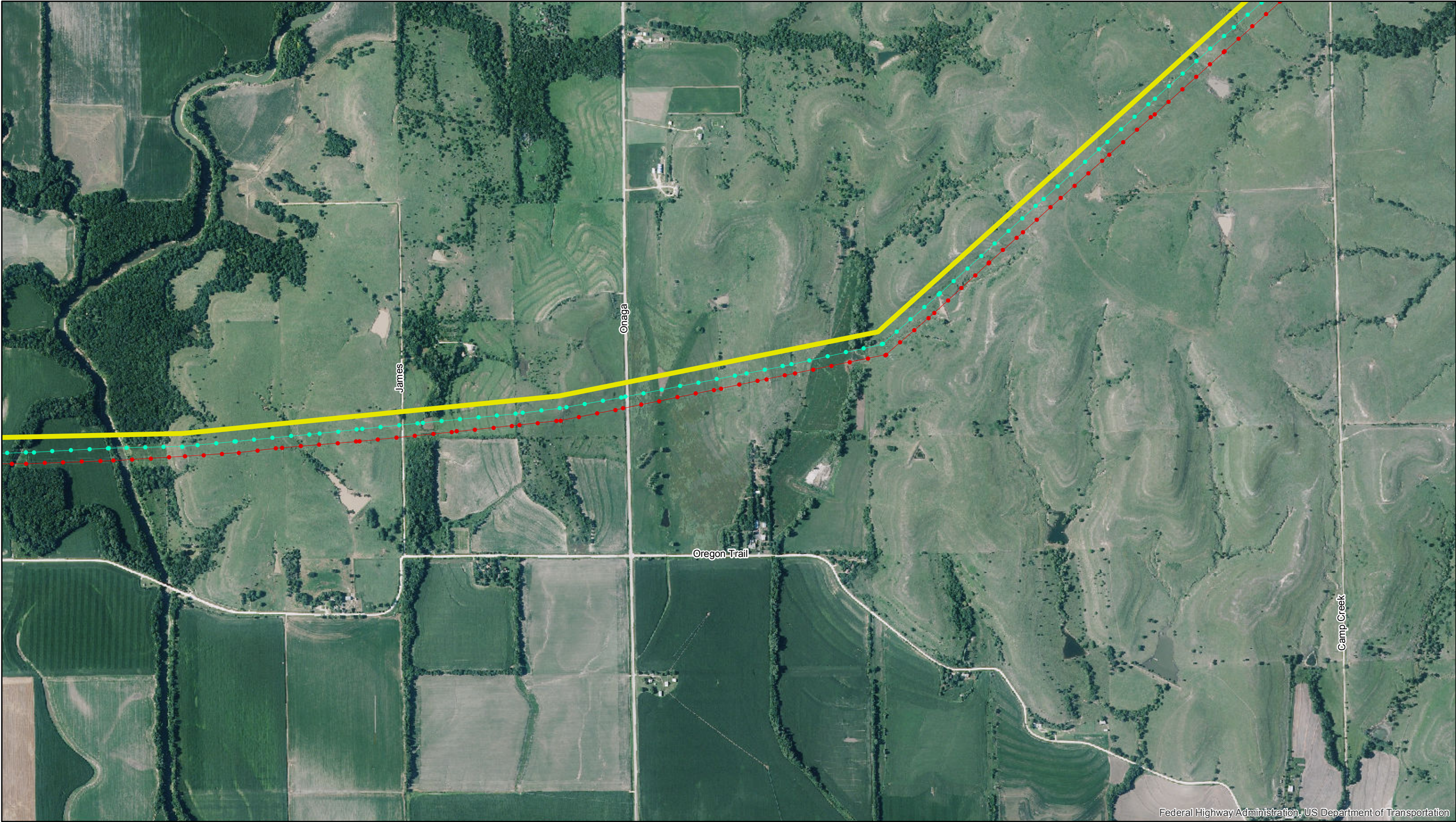
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Date: 2-16-15

Sheet No. 8





Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- | | |
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|  ON EXISTING CL |  OFFSET APPR 150 FT ON NEW ROW |
|  OFFSET APPR 50FT FROM EXIST CL |  NEW ROW ON WESTAR JEC PROP |

Existing Transmission Lines

- | |
|---|
|  Existing Transmission |
|  Existing 230kV Being Replaced |

 WESTAR/JEC PROPERTY

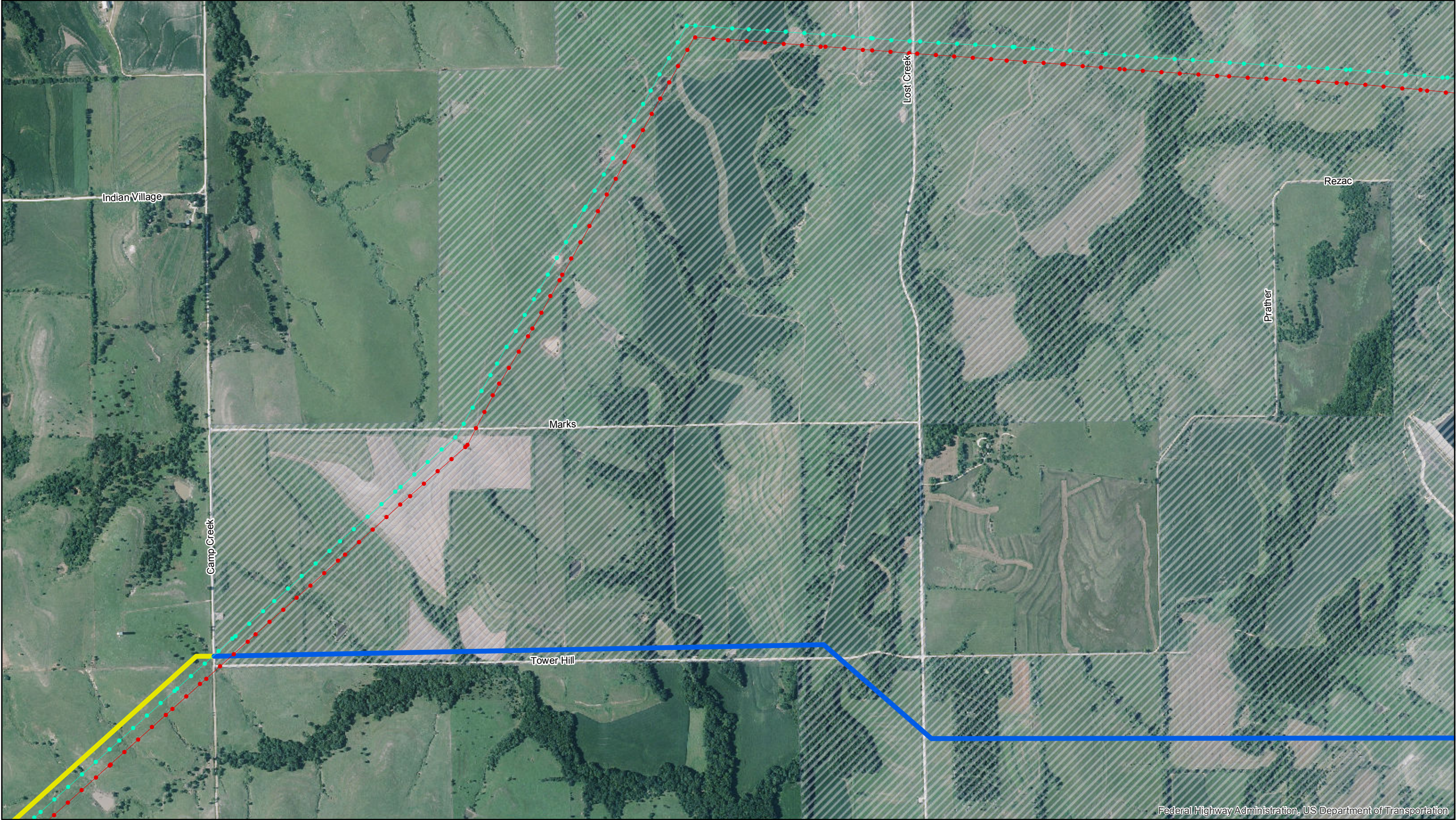
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Date: 2-16-15

Sheet No. 9

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

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Feet

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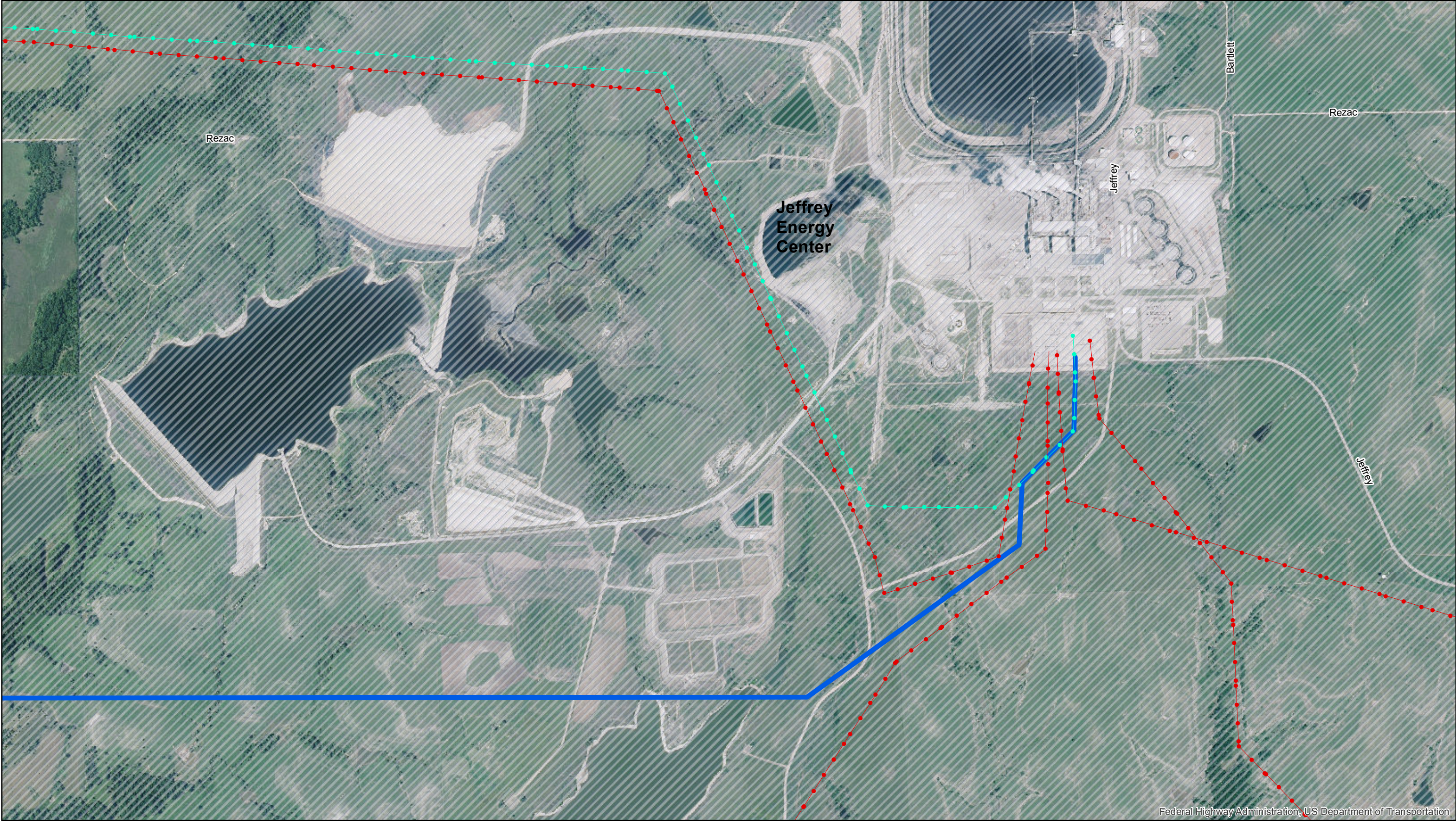
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Date: 2-16-15

Sheet No. 10



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

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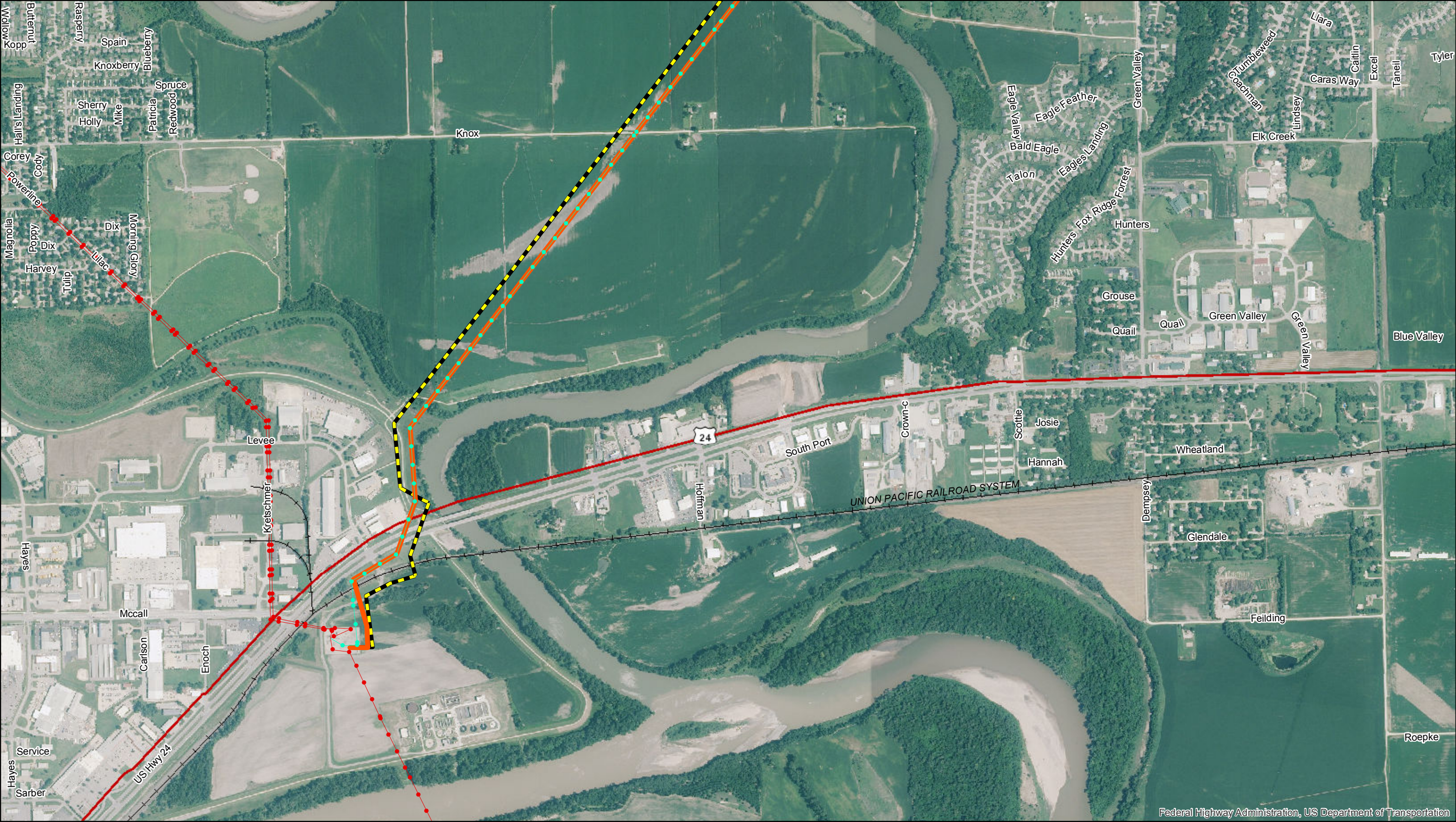
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Date: 2-16-15

Sheet No. 11

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

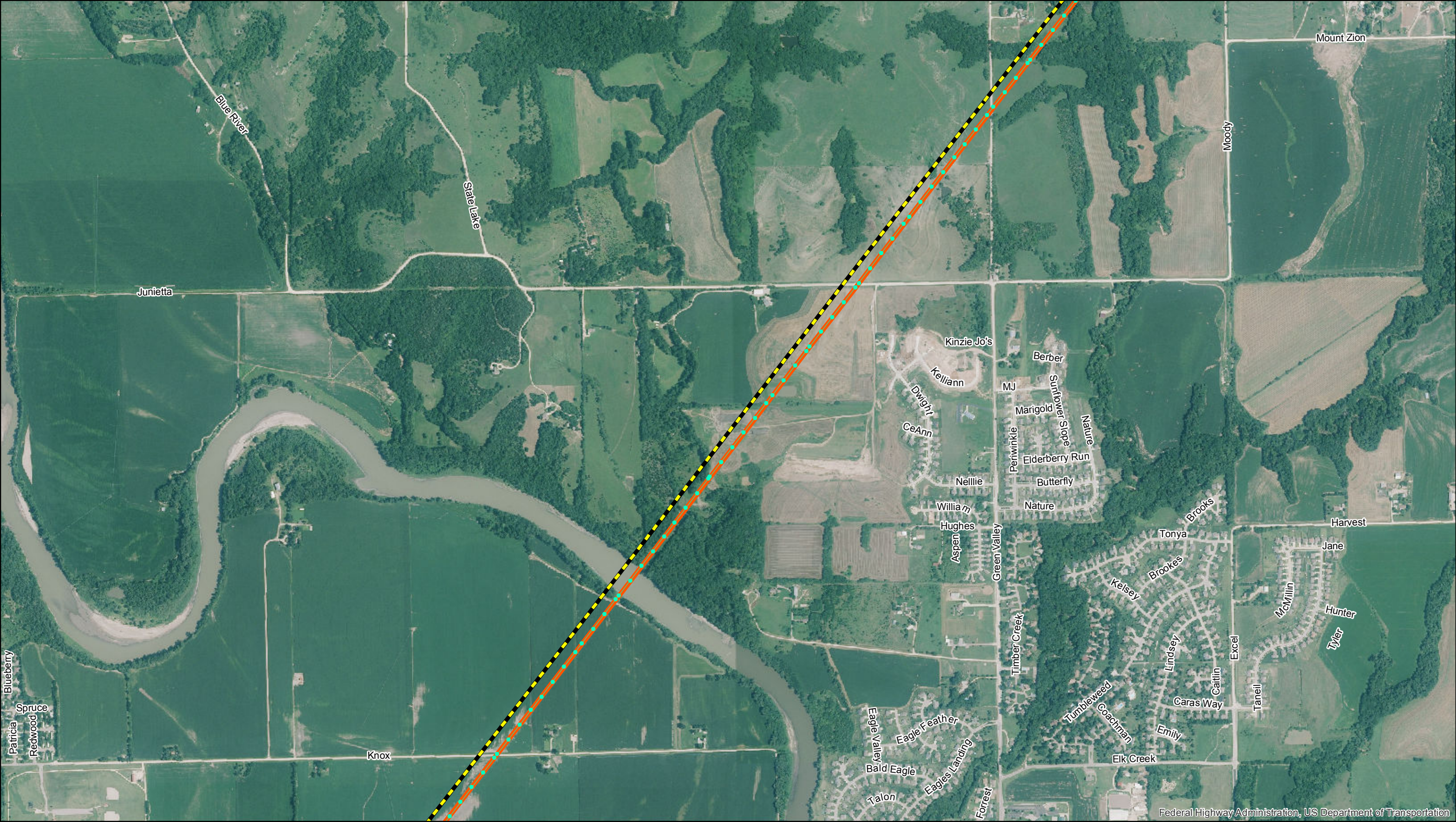
- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 12



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route
WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 13

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 50FT FROM EXIST CL
- OFFSET APPR 150 FT ON NEW ROW
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 14

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

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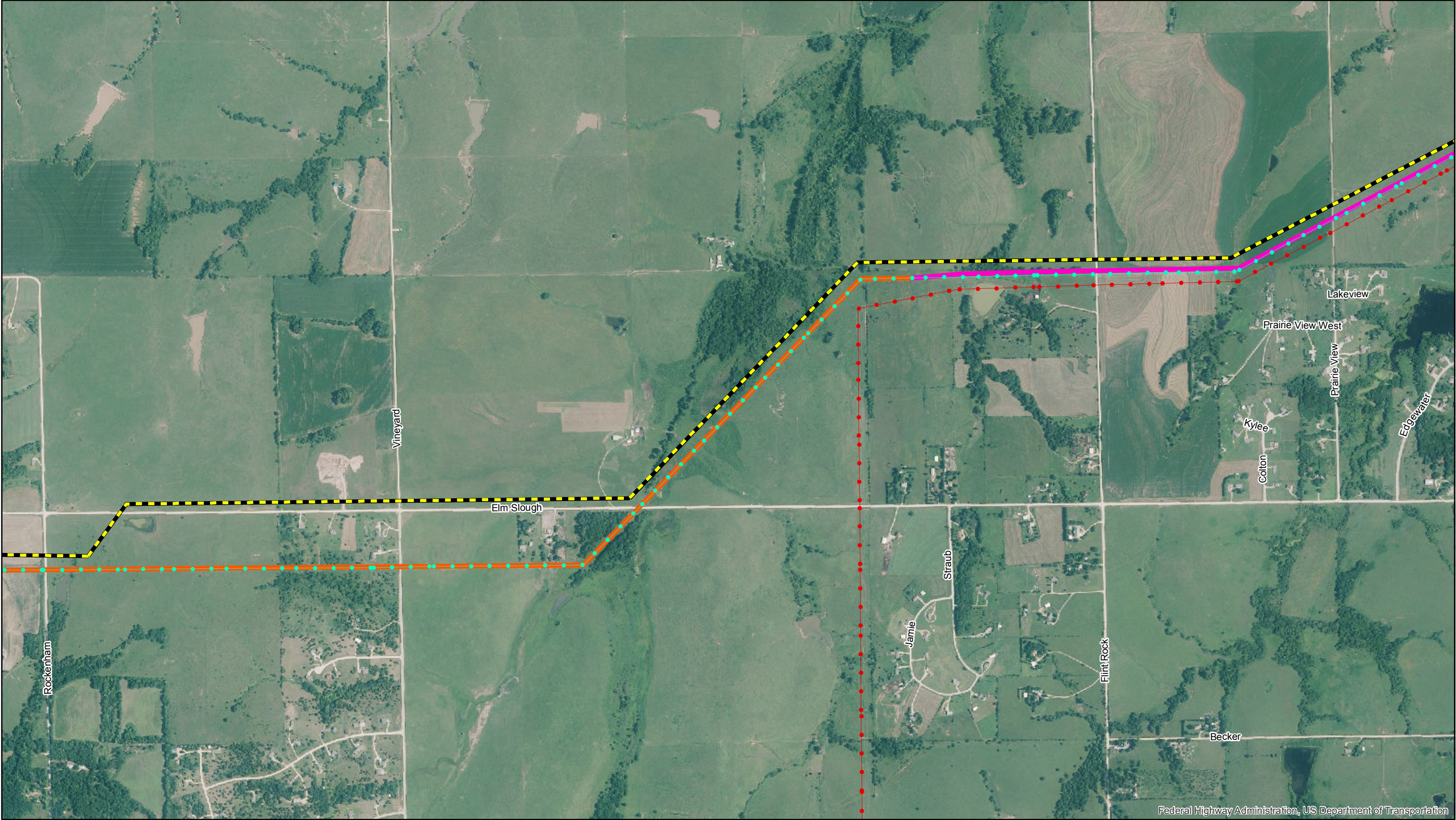
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Date: 2-16-15



Sheet No. 15





Westar Preferred Route Submitted for KCC Approval

 ON EXISTING CL	 OFFSET APPR 150 FT ON NEW ROW
 OFFSET APPR 50FT FROM EXIST CL	 NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

 Existing Transmission
 Existing 230kV Being Replaced

BMcD Study Preferred Route

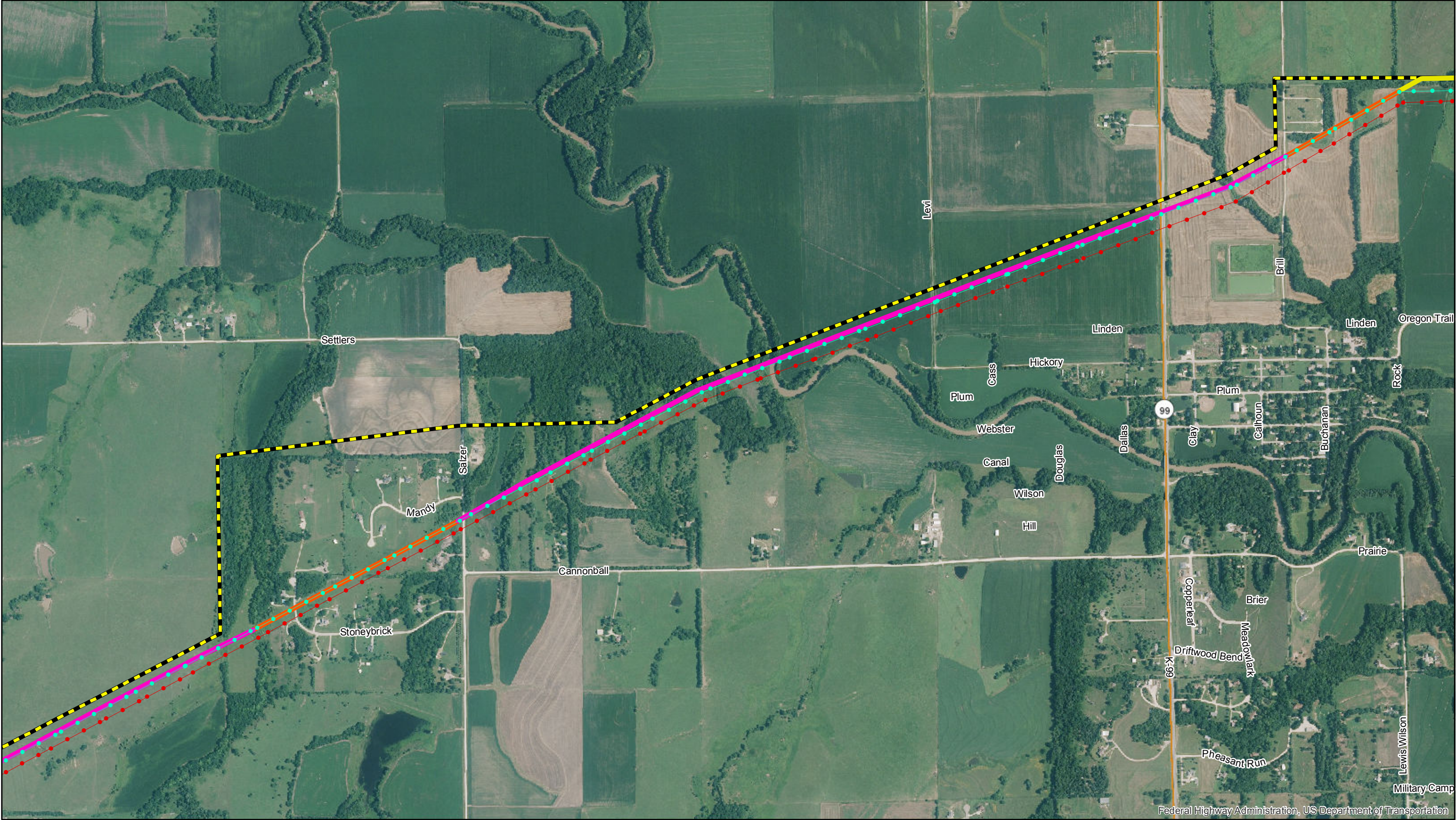
 BMcD Study Preferred Route
 WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 16



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route
WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 17



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

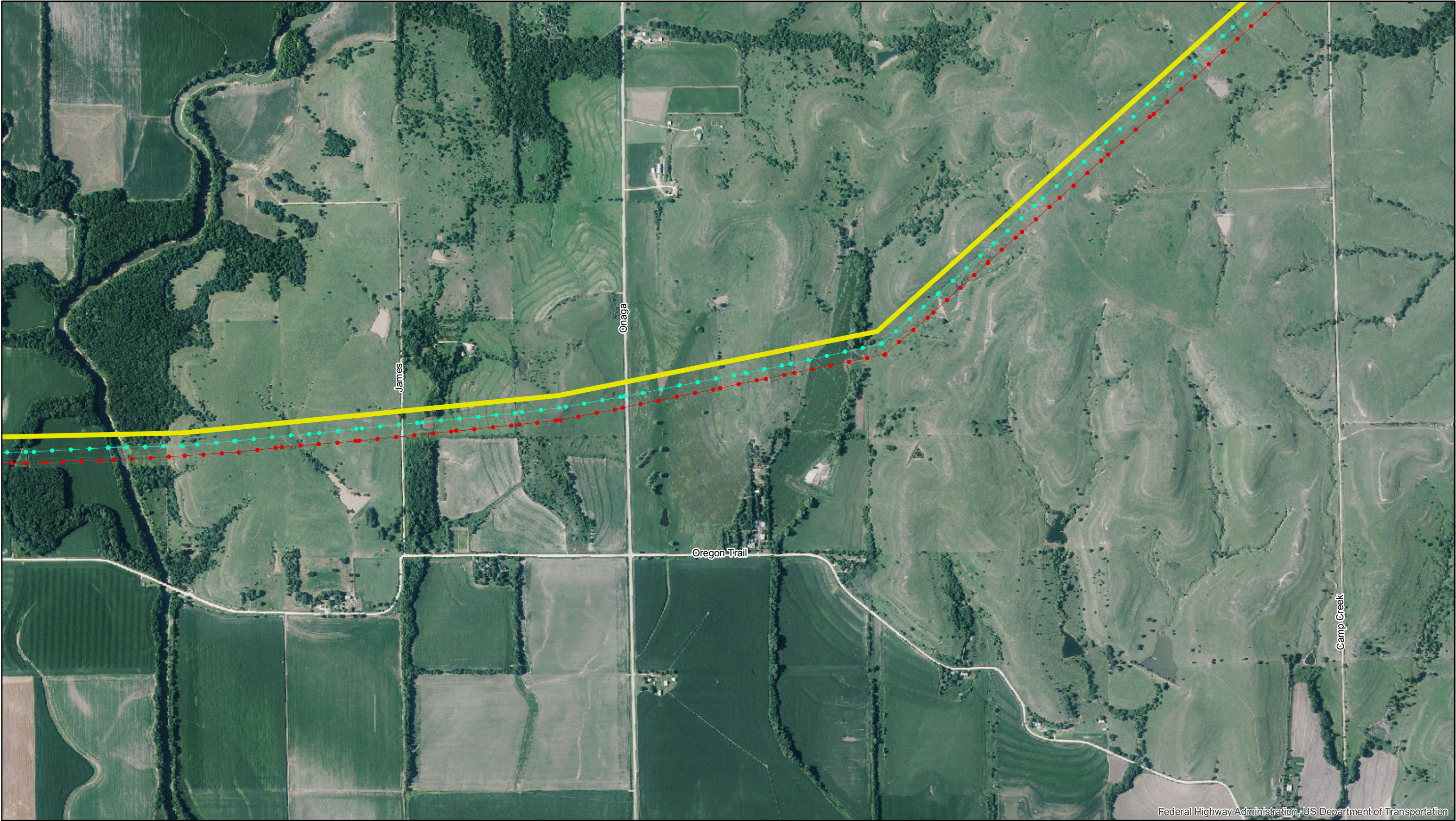
- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 18



Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route
WESTAR/JEC PROPERTY

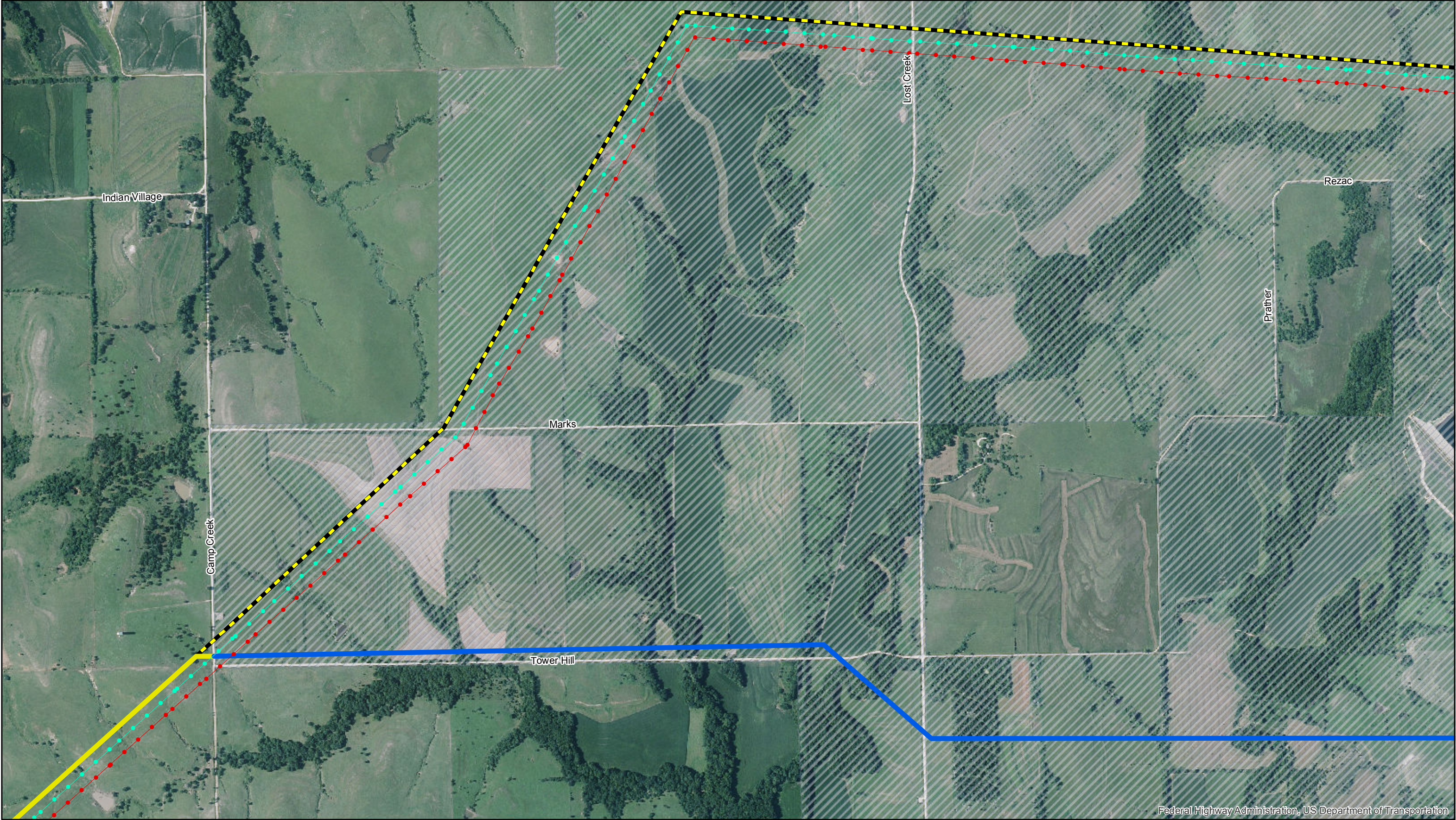
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Date: 2-16-15

Sheet No. 19

Exhibit KBH-1



Weststar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

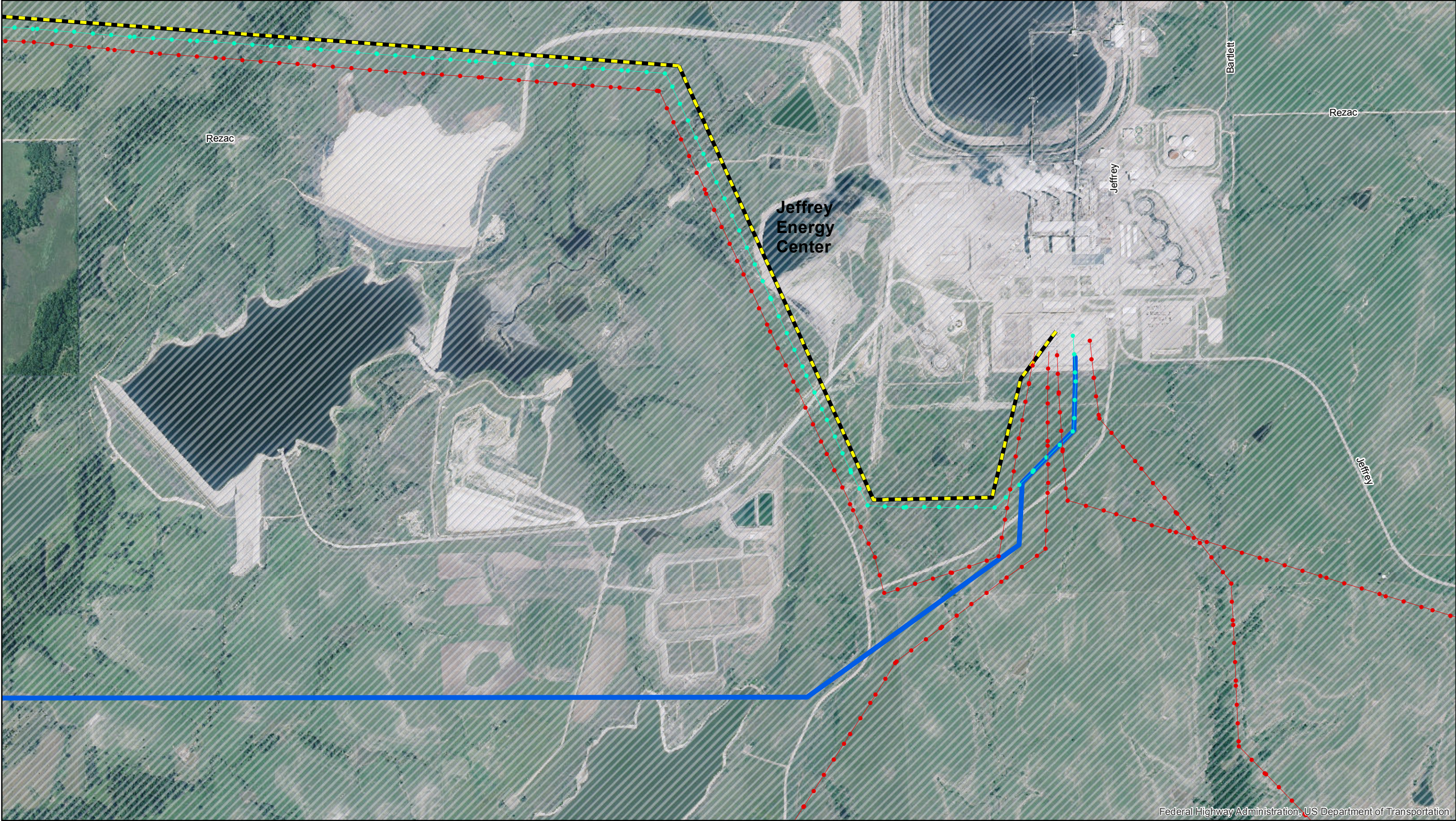
- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 20



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 21



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

**SPP
Notification to Construct**

February 19, 2014

Mr. Mo Awad
Westar Energy, Inc.
P.O. Box 889
Topeka, KS 66601

RE: Notification to Construct Approved Reliability Network Upgrades

Dear Mr. Awad,

Pursuant to Section 3.3 of the Southwest Power Pool, Inc. ("SPP") Membership Agreement and Attachment O, Section VI, of the SPP Open Access Transmission Tariff ("OATT"), SPP provides this Notification to Construct ("NTC") directing Westar Energy, Inc. ("WR"), as the Designated Transmission Owner ("DTO"), to construct the Network Upgrade(s). This NTC is conditioned upon WR not ordering materials or beginning construction until:

- (1) the DTO submits a refined NTC-C Project Estimate ("CPE") to SPP that has a variance bandwidth of -20% to +20% that does not exceed the Study Estimate variance bandwidth of -30% to +30% as provided for in SPP's Business Practices; or
- (2) the SPP Board of Directors considers SPP's re-evaluation of a project that has a refined CPE from the DTO that exceeds the Study Estimate variance bandwidth of -30% to +30% as provided for in SPP's Business Practices.

On January 28, 2014, the SPP Board of Directors approved the Network Upgrade(s) listed below to be constructed as part of the 2014 Integrated Transmission Planning ("ITP") Near-Term Assessment.

New Network Upgrades

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$53,832,758

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$53,832,758

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Commitment to Construct

Please provide to SPP a written commitment to construct the Network Upgrade(s) within 90 days of the date of this NTC, pursuant to Attachment O, Section VI.6 of the SPP OATT, in addition to providing a construction schedule. Failure to provide a sufficient written commitment to construct as required by Attachment O could result in the Network Upgrade(s) being assigned to another entity.

CPE

Please provide SPP a CPE by August 31, 2014, as described in SPP's Business Practice No. 7060 regarding Notification to Construct with Conditions. WR shall advise SPP of any inability to provide the CPE by August 31, 2014, as soon as the inability becomes apparent.

Removal of Conditions

Upon notice by SPP of removal of the conditions contained in this NTC, SPP will issue the DTO a new NTC and the following will be applicable:

Mitigation Plan

The Need Date represents the timing required for the Network Upgrade(s) to address the identified need. Your prompt attention is required for formulation and approval of any necessary mitigation plans for the Network Upgrade(s) included in the Network Upgrade(s) if the Need Date is not feasible. Additionally, if it is anticipated that the completion of any Network Upgrade will be delayed past the Need Date, SPP requires a mitigation plan be filed within 60 days of the determination of expected delays.

Notification of Commercial Operation

Please submit a notification of commercial operation for each listed Network Upgrade to SPP as soon as the Network Upgrade is complete and in-service. Please provide SPP with the actual costs of these Network Upgrades as soon as possible after completion of construction. This will facilitate the timely billing by SPP based on actual costs.

Notification of Progress

On an ongoing basis, please keep SPP advised of any inability on WR's part to complete the approved Network Upgrade(s). For project tracking, SPP requires WR to submit status updates of the Network Upgrade(s) quarterly in conjunction with the SPP Board of Directors meetings. However, WR shall also advise SPP of any inability to comply with the Project Schedule as soon as the inability becomes apparent.

All terms and conditions of the SPP OATT and the SPP Membership Agreement shall apply to



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

this Project, and nothing in this NTC shall vary such terms and conditions.

Don't hesitate to contact me if you have questions or comments regarding these instructions.
Thank you for the important role that you play in maintaining the reliability of our electric grid.

Sincerely,

A handwritten signature in black ink that reads 'Lanny Nickell'.

Lanny Nickell
Vice President, Engineering
Phone: (501) 614-3232 • Fax: (501) 482-2022 • lnickell@spp.org

cc: Carl Monroe - SPP
Katherine Prewitt - SPP
John Olsen - WR
Tom Stuchlik - WR
Dave Benak - WR



Mo Awad
Manager, Transmission Planning
Email: Mo.Awad@WestarEnergy.com
Office: 785-575-1674

August 28, 2014

Mr. Lanny Nickell
Vice President, Engineering
Southwest Power Pool
201 Worthen Drive
Little Rock, AR 72223-4936

Ref: SPP-NTC-200244

Dear Mr. Nickell,

This letter is in response to the SPP Notification to Construct letter (SPP-NTC-200244) issued on February 19, 2014.

Per this letter, Westar Energy is providing Conditional Project Estimate (CPE) for those projects identified in (SPP-NTC-200244) by the required date of August 31, 2014 as described in Business Practice No. 7060 regarding Notification to Construct with Conditions. Westar is committed to both upgrades to be placed in-service by the SPP need date. Therefore, no mitigation is required. In summary, the cost estimate for PID#30390 increased within the allowed bandwidth and the cost estimate for PID#30560 remains unchanged. All cost estimates are already submitted in TAGIT.

Westar understands that the CPE for each project is within the requirements for removing the conditions on the NTC as described in Business Practice 7060, and should be deemed acceptable. Westar will await your concurrence and issuance of a NTC without conditions before proceeding with further development.

New Network Upgrades

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$53,832,758

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1 Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR

conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$53,832,758

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Westar is committed to PID#30390 and all its associated UUIDs by the SPP need date. The Conditional Project Estimate has been submitted in TAGIT.

Westar Projected In-Service Date: 6/1/2017

Westar Conditional Project Estimate: \$58,317,000

Date of Conditional Project Estimate: 8/28/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963
Cost Allocation of the Network Upgrade: Base Plan
Estimated Cost Source: WR
Date of Estimated Cost: 11/21/2013

Westar is committed to PID#30560 and all its associated UIDs by the SPP need date. The cost estimate remains unchanged and submitted in TAGIT.

Westar Projected In-Service Date: 6/1/2019
Westar Conditional Project Estimate: \$51,513,963
Date of Conditional Project Estimate: 8/28/2014

Westar understands that the total updated estimate for each project is within the requirements for removing the conditions on the NTC as described in Business Practice 7060, and should be deemed acceptable. We will await your concurrence and issuance of a NTC without conditions before proceeding with further development.

If you have any questions, please do not hesitate in contacting me.

Sincerely,



Mo Awad
Westar Energy
Manager, Transmission Planning
785-575-1674
Mo.Awad@westarenergy.com

cc: Carl Monroe (Southwest Power Pool)
Antoine Lucas (Southwest Power Pool)
Cary Frizzell (Southwest Power Pool)
John Olsen (Westar Energy)
Tom Stuchlik (Westar Energy)
David Benak (Westar Energy)



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

1 Notification to Construct

September 2, 2014

Mr. Mo Awad
Westar Energy, Inc.
P.O. Box 889
Topeka, KS 66601

RE: Notification to Construct Approved Reliability Network Upgrades

Dear Mr. Awad,

Pursuant to Section 3.3 of the Southwest Power Pool, Inc. ("SPP") Membership Agreement and Attachment O, Section VI, of the SPP Open Access Transmission Tariff ("OATT"), SPP provides this Notification to Construct ("NTC") directing Westar Energy, Inc. ("WR"), as the Designated Transmission Owner, to construct the Network Upgrade(s).

On January 28, 2014, the SPP Board of Directors approved the Network Upgrades listed below to be constructed as part of the 2014 Integrated Transmission Planning Near-Term Assessment. On February 19, 2014, SPP issued WR the Notification to Construct with Conditions ("NTC-C") No. 200244.

On August 28, 2014, SPP received WR's NTC-C Project Estimates ("CPE") for the Network Upgrades specified in the NTC-C No. 200244. SPP approved the CPEs as meeting the requirements of Condition No. 1 of the NTC-C, and notified WR that SPP would issue an NTC for the Network Upgrades.

Upgrades with Modifications

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$58,317,000

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1
Rebuild



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$58,317,000

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 8/28/2014

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.



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TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 5/6/2014

Commitment to Construct

Please provide to SPP a written commitment to construct the Network Upgrade(s) within 90 days of the date of this NTC, pursuant to Attachment O, Section VI.6 of the SPP OATT. Failure to provide a sufficient written commitment to construct as required by Attachment O could result in the Network Upgrade(s) being assigned to another entity.

Mitigation Plan

The Need Date represents the timing required for the Network Upgrade(s) to address the identified need. Your prompt attention is required for formulation and approval of any necessary mitigation plans for the Network Upgrade(s) included in the Network Upgrade(s) if the Need Date is not feasible. Additionally, if it is anticipated that the completion of any Network Upgrade will be delayed past the Need Date, SPP requires a mitigation plan be filed within 60 days of the determination of expected delays.

Notification of Commercial Operation

Please submit a notification of commercial operation for each listed Network Upgrade to SPP as soon as the Network Upgrade is complete and in-service. Please provide SPP with the actual costs of these Network Upgrades as soon as possible after completion of construction. This will facilitate the timely billing by SPP based on actual costs.

Notification of Progress

On an ongoing basis, please keep SPP advised of any inability on WR's part to complete the approved Network Upgrade(s). For project tracking, SPP requires WR to submit status updates of the Network Upgrade(s) quarterly in conjunction with the SPP Board of Directors meetings. However, WR shall also advise SPP of any inability to comply with the Project Schedule as soon as the inability becomes apparent.

All terms and conditions of the SPP OATT and the SPP Membership Agreement shall apply to this Project, and nothing in this NTC shall vary such terms and conditions.

Don't hesitate to contact me if you have questions or comments regarding these instructions.



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Thank you for the important role that you play in maintaining the reliability of our electric grid.

Sincerely,

A handwritten signature in black ink that reads 'Lanny Nickell'.

Lanny Nickell

Vice President, Engineering

Phone: (501) 614-3232 • Fax: (501) 482-2022 • lnickell@spp.org

cc: Carl Monroe - SPP
Antoine Lucas - SPP
John Olsen - WR
Tom Stuchlik - WR
Dave Benak - WR



Mo Awad
Manager, Transmission Planning
Email: Mo.Awad@WestarEnergy.com
Office: 785-575-1674

September 3, 2014

Mr. Lanny Nickell
Vice President, Engineering
Southwest Power Pool
201 Worthen Drive
Little Rock, AR 72223-4936

Ref: SPP-NTC-200296

Dear Mr. Nickell,

This letter is in response to the SPP Notification to Construct letter (SPP-NTC-200296) issued on September 2, 2014.

On February 19, 2014, SPP issued Westar the Notification to Construct with Conditions ("NTC-C") No. 200244. On August 28, 2014, Westar provided to SPP NTC-C Project Estimates ("CPE") for the Network Upgrades specified in the NTC-C No. 200244. SPP approved the CPEs as meeting the requirements of Condition No. 1 of the NTC-C. On September 2, Westar received SPP NTC#200296 with no conditions for the upgrades identified in NTC#200244.

Per this letter, Westar Energy is committing to all projects as listed in SPP-NTC-200296. All cost estimates were provided to SPP in the NTC CPE letter dated August 28, 2014 and are submitted in TAGIT.

Upgrades with Modifications

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$58,317,000

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1 Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$58,317,000

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 8/28/2014

Westar is committed to the project above and all of its associated upgrades. The Westar projected in service date is 6/1/2017 which matches the SPP need date.

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 5/6/2014

Westar is committed to the project above and all of its associated upgrades. The Westar projected in service date is 6/1/2019 which matches the SPP need date.

If you have any questions, please do not hesitate in contacting me.

Sincerely,



Mo Awad
Westar Energy
Manager, Transmission Planning
785-575-1674
Mo.Awad@westarenergy.com

cc: Carl Monroe (Southwest Power Pool)
Katherine Prewitt (Southwest Power Pool)
John Olsen (Westar Energy)
Tom Stuchlik (Westar Energy)
Dave Benak (Westar Energy)



November 12, 2014

Name
Address
City, ST ZIP

Dear Property Owner,

We are making an upgrade to the transmission system in your area and are considering new routes on or near your property. Please join us to learn more about this project.

In the early 1980s, Westar Energy built a large power line to carry electricity from Jeffrey Energy Center to Manhattan. In the past few years, the demand for power has increased and the line needs to be replaced. We are developing a plan to replace the entire 27 mile power line so we can keep electricity in your area reliable.

Enclosed, you'll see a map that shows the *potential* routes for the new power line in green. It may look a bit overwhelming; however, keep in mind these are our *potential* routes. We want you to help us determine which route to build. Please join us for an open house to discuss routes for the new power line.

- **Who is invited?** Landowners and residents along the potential routes are receiving this letter of invitation. Anyone is welcome to attend.
- **When and where is the open house?** 4 to 7 p.m. Dec. 3 and 4 at the Wamego Area Senior Citizens/Community Center, 501 Ash St. in Wamego. Come and go during that time at your convenience.

Your attendance is important to us. Here are a few reasons why:

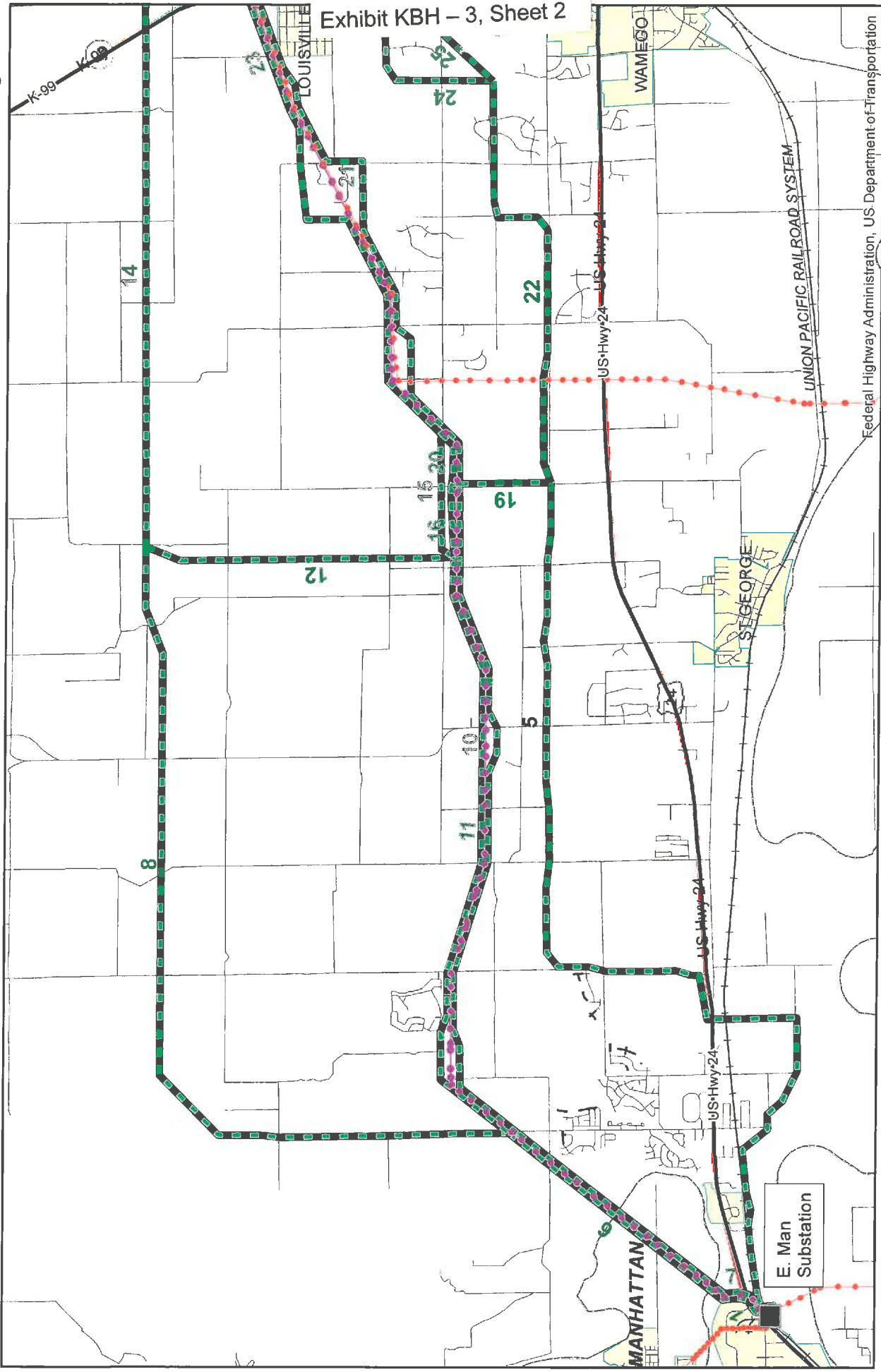
- Help us determine the preferred route from those shown on the map.
- Complete a survey about how routes are evaluated.
- Learn about the logistics and benefits of the project.
- Learn how the project could affect your land.
- Share your concerns and questions

We look forward to meeting with you at the open house. If you have any questions prior to our open houses, please contact Johnny Onstead at (904) 571-9269 or jonstead@twinpeaksfieldservices.com.

Sincerely,

A handwritten signature in black ink that reads "Kelly B. Hamlin".

Jeffrey Energy Center to E. Manhattan 230kV Replacement Project



Existing Transmission Lines

- 230kV Line Being Replaced
- Other Existing Transmission Lines

Potential New Routes Under Consideration

- Potential Routes for New 230kV-345kV Line

Date: 12-04-14

(Continued on Other Side)



Exhibit KBH – 3, Sheet 3



Date: 12-04-14

Potential Routes for New 230kV-345kV Line

Other Existing Transmission Lines

(Continued on Other Side)



JEC TO E. MANHATTAN ROUTING PROCESS

Which route is the best?

A QUICK OVERVIEW ON HOW LANDOWNERS AND WESTAR WORK TOGETHER TO DETERMINE THE BEST ROUTE FOR A PROJECT.

Routing a transmission line is a lengthy process, and for those along the selected route, the beginning of a relationship that will last for decades. We realize this can be a challenging process, and we want to be a good neighbor. To that end, we seek feedback from local property owners early in the process to determine the final route for the transmission line.

HERE IS A SUMMARY OF THAT PROCESS:

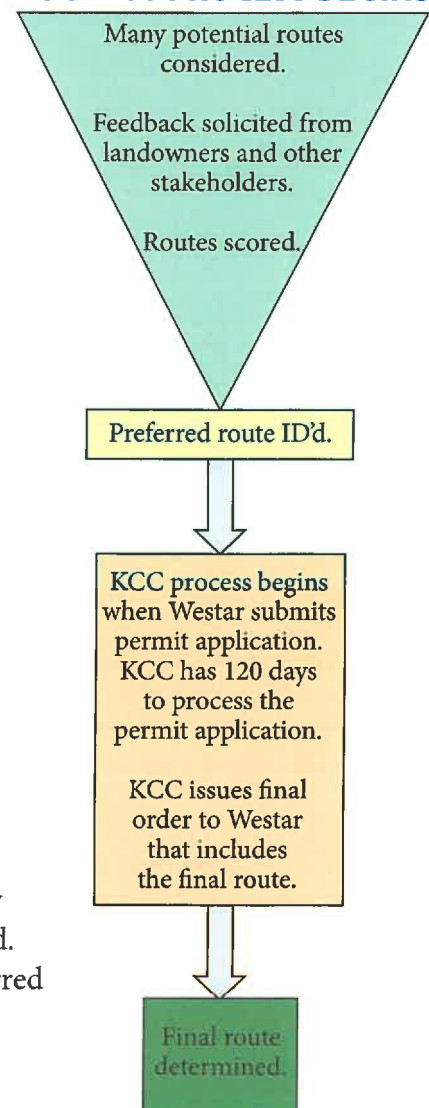
Using aerial photos, public records and visits to the area, we identify potential routes the transmission line could follow.

Westar identifies property owners along the potential routes and invites them to open houses about the project. These open houses give property owners a chance to learn about the project and Westar an opportunity to learn more about how the routes may impact property owners. We ask property owners for feedback in person and through questionnaires. Often property owner feedback will result in some adjustment to the routes. This information is used to apply scores to each of the potential routes. The route with the highest score is called the preferred route.

At this stage the regulatory process begins. Westar submits a filing with the Kansas Corporation Commission identifying the preferred route in the siting study. During the KCC process, landowners along the route will be notified and given information about how they can participate in the KCC's decision making process. Public comments may be submitted in writing and at least one public hearing will be conducted. The KCC staff and engineers also evaluate the siting study and the preferred route. They will make a recommendation to the KCC Commissioners who will approve, request modifications or deny Westar's application.

Once a route is selected, we notify property owners and begin working with them to obtain easements for the transmission line.

ROUTING PROCESS BEGINS



ROUTING PROCESS ENDS



JEC TO E. MANHATTAN TRANSMISSION LINE

Building better reliability.

THE JEFFREY ENERGY CENTER TO EAST MANHATTAN 230kV/345kV TRANSMISSION PROJECT WILL PROVIDE THE RELIABLE ENERGY NEEDED FOR A GROWING KANSAS.

The lack of high-voltage transmission lines in north-central Kansas causes inefficiencies that can impact the reliability of electrical service. The Jeffrey Energy Center to East Manhattan transmission upgrade will help ease congestion across the network and improve the delivery of power to customers. It will benefit residents and businesses in central Kansas and beyond by strengthening the regional high-voltage grid, bringing improved reliability and helping to provide access to a wider range of cost-effective generation sources. It will provide tax revenue, construction jobs and local expenditures. It also will expand capabilities for future investment in area industry.



THE PROJECT

The Jeffrey Energy Center to East Manhattan project will replace an existing transmission line that was built in the early 1980s. The Southwest Power Pool (SPP) has directed Westar Energy, Inc. (Westar) to replace the transmission line with a new transmission line that will carry more electricity. The new transmission line will be designed and constructed using specifications that will allow the line to operate at a higher voltage (345kV) to carry more electricity if needed in the future. Westar will continue to operate the transmission line at the existing voltage (230kV) until the SPP determines a need to convert it to the higher voltage. No significant upgrades are necessary at the substations located on each end of the transmission line with this project. The new transmission line will continue to move electrical power between the Jeffrey Energy Center substation and the East Manhattan substation.

THE ROUTING PROCESS

A routing study identifies many potential routes intended to minimize adverse impacts to residents, their land and the natural environment while providing a technically viable and cost-effective transmission line. As part of the review/input process, Westar will meet with state and local officials, landowners, residents and environmental organizations to fully discuss the project, review proposed routes and answer any questions. The routes will be presented to potentially affected landowners during community open house events in December 2014. Landowners along the proposed routes will have the opportunity to review the routes and provide input to Westar. Westar will consider input from all stakeholders in developing a final preferred route to submit to the Kansas Corporation Commission (KCC). The KCC has the final authority to determine where the line will be built.

WORKING WITH LANDOWNERS

Westar is committed to open and frequent communications with landowners. When the final line route is determined by the KCC, we will contact landowners who have property on the final line route and begin discussions with them about purchasing the easements necessary to build the line. This will allow property owners to continue most uses of their property. We provide one-time payments, typically negotiated up-front, based on determination of the market property values in the local area. We will work respectfully with landowners throughout the siting, design, and construction process to minimize impacts to their properties. It is our goal to reach mutually beneficial negotiated agreements with all landowners.

Frequently asked questions.

What will the line look like?

The types of structures to be used on this project have not been determined. First the route has to be identified because it will influence which structure types and height will be used. The structures will likely be fabricated from steel. The structure height will vary based on terrain, clearance to the ground, and structure spacing; but are likely to range between 120 and 160 feet. The span lengths between structures will also vary but will likely be between 800 to 1,500 feet, with an average span around 900 feet.

Who will build the lines and manage the construction?

Westar will provide project management services and coordination for the engineering and construction of the project.

Who approved this project?

The project has been reviewed and approved by the Southwest Power Pool (SPP), the organization designated by the Federal Energy Regulatory Commission (FERC) to oversee the high-voltage grid reliability in the multi-state region that includes Kansas. Westar will construct, own and operate the new transmission line.

How much will this project cost?

Although the cost will be reevaluated when the preferred route is determined, the initial estimated investment for the project is about \$58 million.

Who will pay for the transmission line and facilities?

Because the line will benefit the entire region in terms of improved reliability and increased efficiency, the cost will be recovered from all customers in the Southwest Power Pool region, which includes Kansas, Oklahoma and parts of Nebraska, Texas, New Mexico, Arkansas and Missouri. The SPP oversees the tariff that is the basis for transmission charges to customers.

Why are you starting this process now if the line won't be finished until 2017?

A project of this size requires many years to permit, design, procure materials and construct. Almost all the major components will be custom built and require long lead times.

What environmental impacts will be considered with the siting of this project?

The environment is an important factor when planning and designing transmission line projects. We work closely with appropriate organizations, including the Kansas Department of Wildlife, Parks and Tourism, the U.S. Fish and Wildlife Service and the Nature Conservancy from the beginning of a project to make sure any direct environmental impact is appropriately identified and addressed. We believe this kind of collaboration leads to developing a transmission line route that aligns with federal and state energy and environmental policy objectives. We adhere to all state and federal regulations to protect native plants, threatened or endangered species, wetlands, and water and air quality.

Key dates and timeline.

Fall 2014

Preliminary routing & community outreach

December 3-4, 2014

Public Open House events in Wamego

Q1 2015

Route application filed with the Kansas Corporation Commission

Q2 2015

KCC route approval anticipated

2015-2016

Right-of-way acquisition

2015-2016

Engineering design

2016-2017

Construction

2017

Project in service

Westar Energy, Inc.

Westar is the largest electric energy provider in Kansas, dedicated to operating the best electric utility in the Midwest and providing quality service at below average prices. Headquartered in Topeka, Westar provides generation, transmission, and distribution to more than 687,000 customers in much of east and east-central Kansas. (westarenergy.com)

FOR MORE INFORMATION ON
THIS PROJECT, CONTACT:
JOHN ONSTEAD at
(904) 571-9269

Westar Energy Jeffrey Energy Center to E. Manhattan Project STAKEHOLDER QUESTIONNAIRE

This questionnaire is designed to help you identify issues related to the proposed routes for the Jeffrey Energy Center to E. Manhattan Transmission Line Project. Your answers will assist the study team in understanding public interests and concerns, and will allow the team to incorporate this information in the route selection process. Please complete this questionnaire **after** you have reviewed the information presented in the informational meeting today. Thank you for your input.

PROJECT NEED

1. Do you believe the need for this transmission line has been explained adequately?
 _____Yes _____No _____Uncertain

If "No" or "uncertain," what additional information would be helpful to you?

LINE ROUTING CONSIDERATIONS

2. The routing of a transmission line involves many considerations. Please circle the number corresponding to the level of importance of that factor to you.

<u>Factor</u>	<u>Rating</u>				
	<u>Not Important</u>	<u>.....</u>	<u>Somewhat Important</u>	<u>.....</u>	<u>Most Important</u>
a) Maximize distance from residences	1	2	3	4	5
b) Maximize distance from businesses	1	2	3	4	5
c) Maximize distance from public facilities (e.g., parks, schools, churches, cemeteries)	1	2	3	4	5
d) Maximize length along existing transmission lines	1	2	3	4	5
e) Maximize length along highways or other roads	1	2	3	4	5
f) Maintain reliable electric service	1	2	3	4	5
g) Minimize length through wetlands and number of stream / river crossings	1	2	3	4	5
h) Minimize length across tilled agricultural land	1	2	3	4	5
i) Maximize distance from center pivot irrigation systems	1	2	3	4	5
j) Minimize loss of trees	1	2	3	4	5
k) Minimize visibility of the line	1	2	3	4	5
l) Minimize total length of line (reducing the total cost)	1	2	3	4	5
m) Minimize length through grassland or pasture	1	2	3	4	5
n) Minimize impacts to archaeological and historic sites	1	2	3	4	5
o) Minimize distance through sensitive habitat areas	1	2	3	4	5

3. If you would like to comment further on any of the above factors, or identify any other factors or issues that you feel should be considered, please use the space below or a separate page to describe your comments.



4. If you have a concern with, or a suggestion for, a particular transmission line route(s) shown on the display of potential routes, please indicate the route color number and describe your concern or suggestion.

<u>Segment No.</u>	<u>Concern</u>
_____	_____
_____	_____
_____	_____

ADDITIONAL INFORMATION

5. Which of the following applies to your situation?

☐ a. Potential line route is near my home.
☐ b. Potential line route is near my farm or business.
☐ c. Not affected by potential route.
☐ d. Other, please specify _____

6. Do you believe the public open house format and the information provided was helpful for your understanding of the project?

OPEN HOUSE FORMAT:	<input type="checkbox"/> helpful	<input type="checkbox"/> not helpful
INFORMATION PROVIDED:	<input type="checkbox"/> helpful	<input type="checkbox"/> not helpful
WESTAR STAFF HELPFUL:	<input type="checkbox"/> helpful	<input type="checkbox"/> not helpful

How can we improve this format to better inform and respond to you?

7. If you would like to know the results of this routing study, please enter your name and address below. (Names and addresses are considered confidential.)

Name: _____ Phone: _____

Address: _____

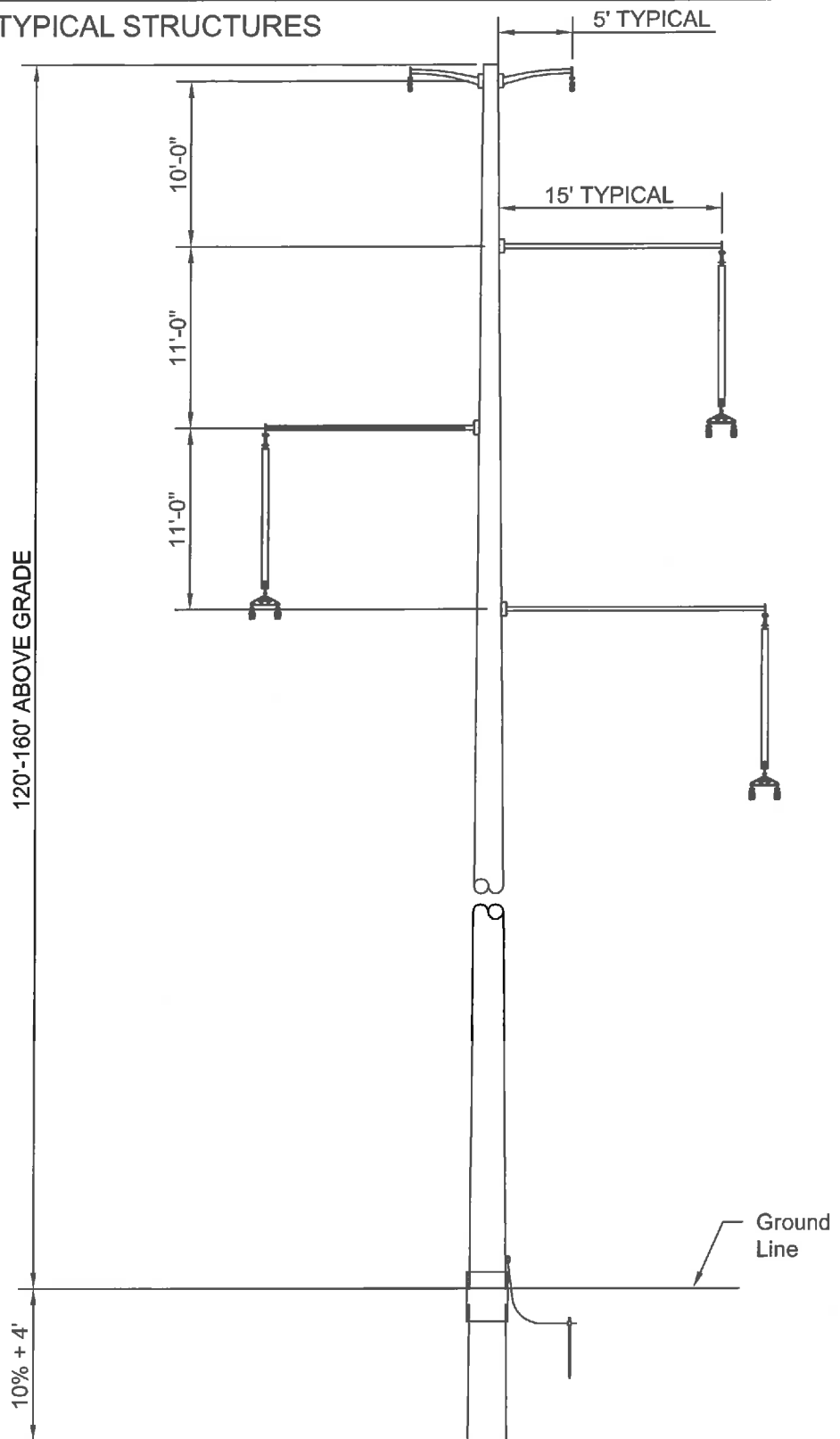
ADDITIONAL COMMENTS OR QUESTIONS

We encourage you to fill out and submit your questionnaire at the meeting. If you take the questionnaire with you, please mail completed questionnaires before December 18, 2014 to:

Westar Energy
JEC to E. Manhattan Transmission Line
Attn: Matt Armfield
PO Box 889
Topeka, KS 66601
Email: Matt.Armfield@westarenergy.com



FOR JEC-E. MAN; TYPICAL STRUCTURES



Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

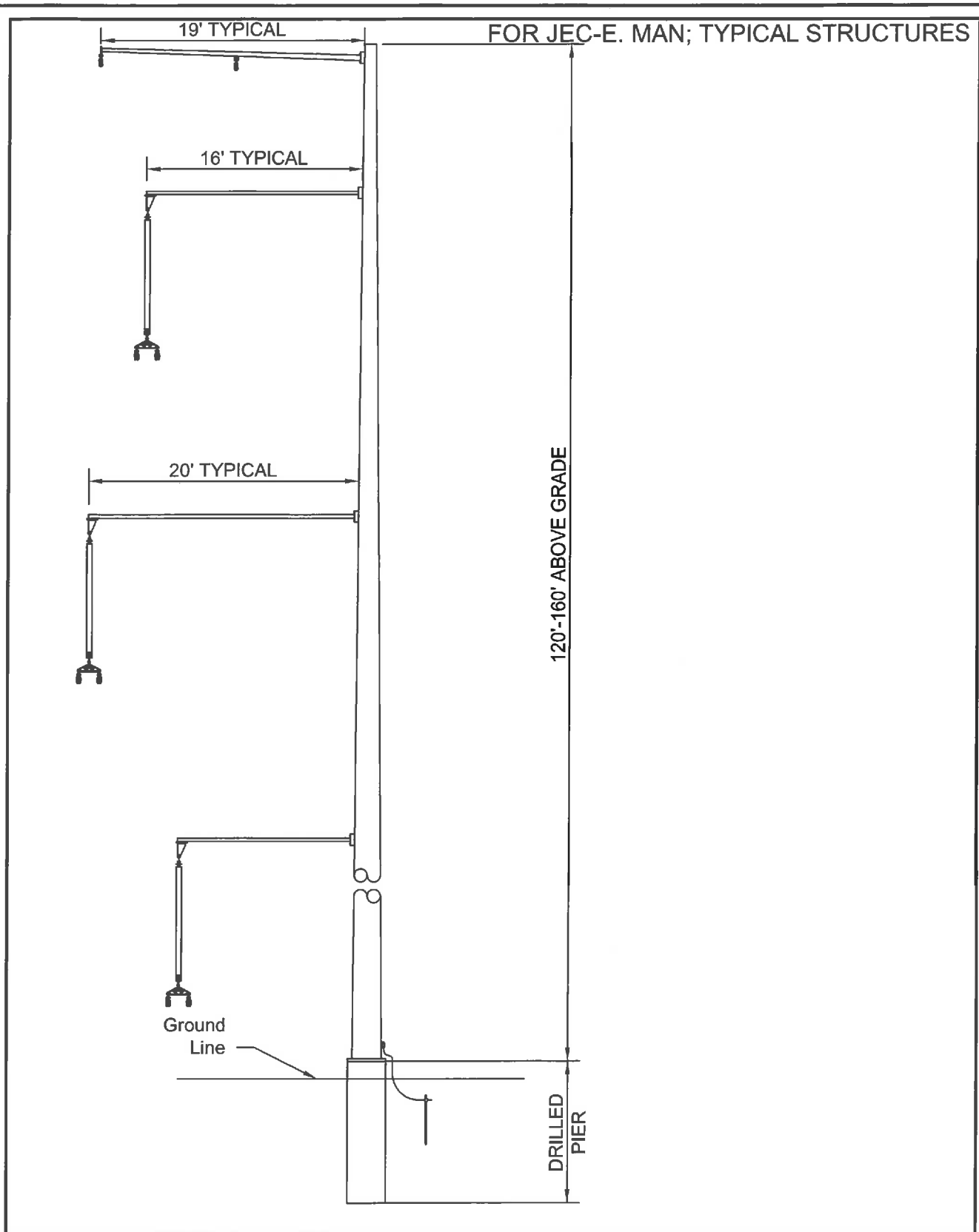
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 1 OF 5

Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

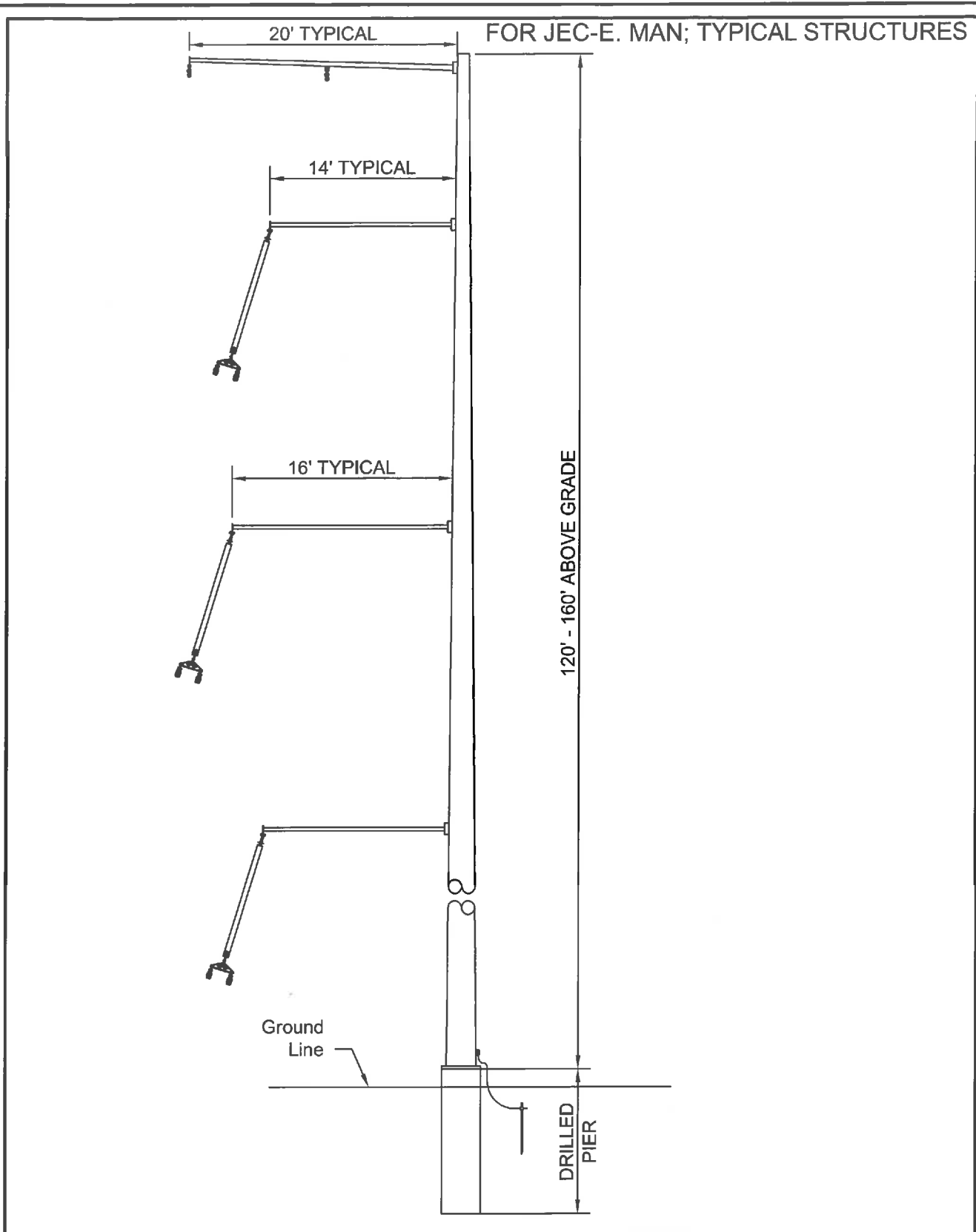
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 2 OF 5

Dwn by DCS Date 02/18/15 Appd. By _____ Used on WR# _____ Date _____



Title:

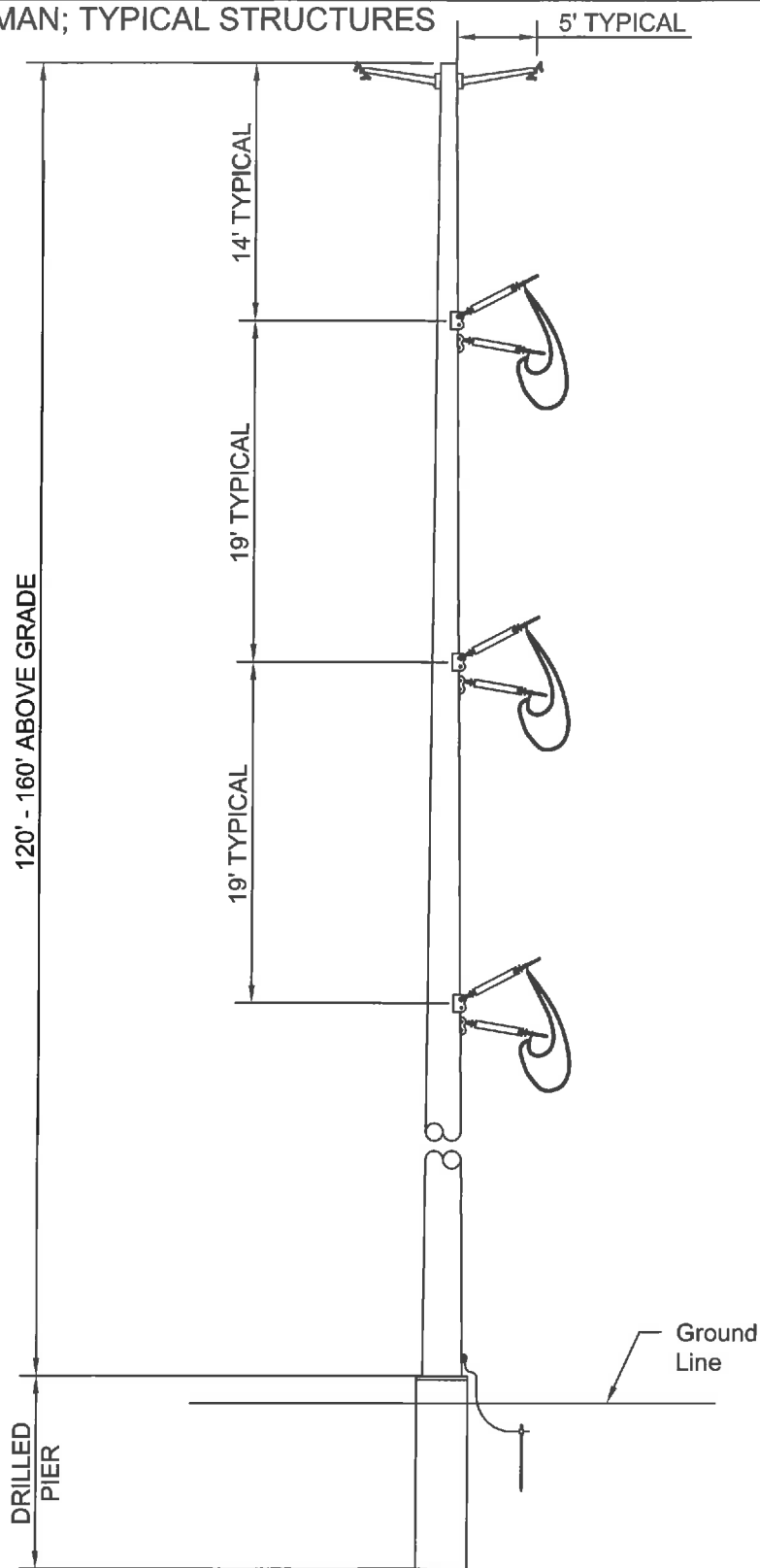
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 3 OF 5

FOR JEC-E. MAN; TYPICAL STRUCTURES



Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

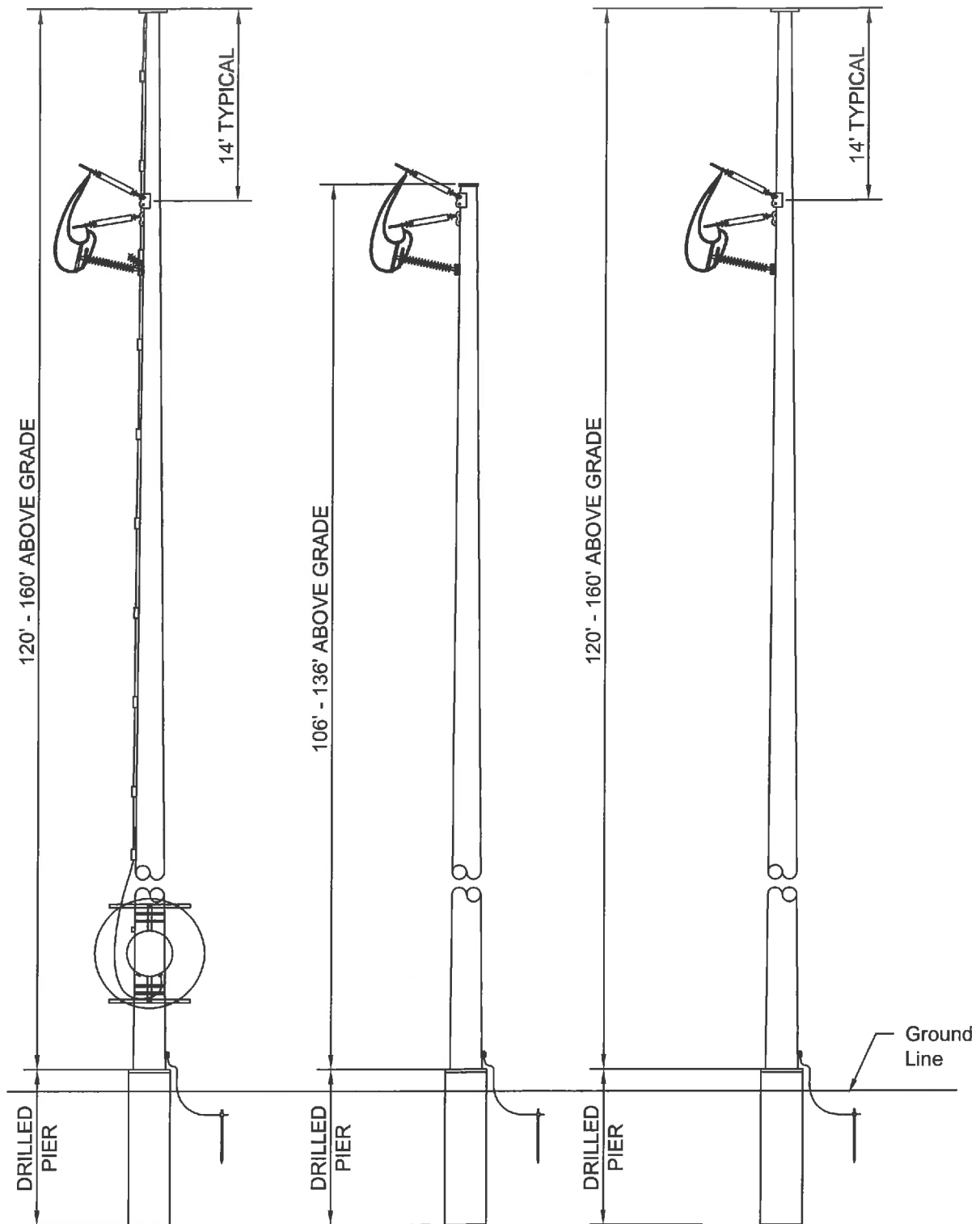
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 4 OF 5

FOR JEC-E. MAN; TYPICAL STRUCTURES



Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 5 OF 5

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

DIRECT TESTIMONY

OF

KELLY B. HARRISON

WESTAR ENERGY

DOCKET NO. 15-WSEE-365-MIS

1

I. INTRODUCTION

2

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

3

A. Kelly B. Harrison, 818 South Kansas Avenue, Topeka, Kansas
4 66612.

5

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

6

A. Westar Energy, Inc. (Westar). I am Vice President, Transmission. I
7 am responsible for transmission line and substation planning,
8 engineering, construction, and maintenance.

9

**Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
10 PROFESSIONAL EXPERIENCE.**

11

A. I received a B.S. Degree in Electrical Engineering in 1981, a M.S.
12 Degree in Engineering Management Science in 1985 and a M.B.A.
13 in 1994, all from Wichita State University. Following my graduation
14 in 1981, I began work at Kansas Gas and Electric Company (KG&E)

1 as an engineer in the System Planning department. I held various
2 engineering positions until 1987 when I was promoted to Supervisor
3 of Planning and Forecasting in the Rate department. I was promoted
4 to Manager of Planning and Forecasting in 1988, and I remained in
5 that position after the acquisition of KG&E by The Kansas Power and
6 Light Company (now Westar) in March 1992. From March 1992 until
7 October 1999, I held various positions in the Regulatory Affairs
8 department. In October 1999, I became Senior Director,
9 Restructuring and Rates. In 2001, I was named Executive Director,
10 then Vice President, Regulatory in December 2001. In March 2006,
11 I became Vice President, Transmission Operations and
12 Environmental Services. I assumed my current responsibilities in
13 August 2011.

14 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

15 A. I will provide an overview of the filing and will discuss the need for
16 and benefits that will result from the proposed transmission project.
17 I also describe the basics of the process used by Westar to
18 determine the preferred route for the proposed line.

19 **II. OVERVIEW OF FILING**

20 **Q. WHAT IS THE PURPOSE OF THIS FILING?**

21 A. This application seeks Commission approval for Westar to site and
22 construct a new transmission line to replace the existing 230 kV
23 transmission line from Westar's Jeffrey Energy Center (JEC)

1 Substation, located northwest of St. Marys, to Westar's East
2 Manhattan Substation located near Manhattan. The new
3 transmission line will be engineered and constructed to 345 kV
4 standards, but will continue to operate at 230 kV. At an
5 undetermined date in the future another project is expected to be
6 authorized by the SPP to convert this transmission line from 230 kV
7 to 345 kV.

8 The filing substantiates the need for the line and details the
9 extensive siting process that was used to select a preferred route.
10 The filing includes testimony and exhibits that: 1) describe the
11 preferred route for the line, 2) list all affected landowners whose land
12 would be crossed by the preferred route or whose land lies within
13 1,000 feet of the centerline of the preferred route, 3) summarize the
14 environmental characteristics of the areas studied for siting the line;
15 and 4) explain the benefits of the proposed line to Kansas electric
16 customers, electric customers in the region, and economic
17 development within Kansas.

18 **Q. IS THE LINE FOR WHICH WESTAR SEEKS SITING AUTHORITY**
19 **INTEGRAL TO WESTAR'S PROVISION OF ELECTRIC SERVICE**
20 **IN KANSAS?**

21 A. Yes, in at least two important ways. First, Westar's witnesses
22 demonstrate the benefits and enhanced reliability from this new line
23 for Westar's retail and wholesale customers in Kansas, for other

1 Kansas electric utilities and their customers, and for the entire
2 Southwest Power Pool (SPP) region.

3 Second, constructing this line is consistent with Westar's
4 business plan of being a basic Kansas electric utility. Westar is
5 capable of financing, engineering, constructing and maintaining this
6 and other major new expansions of the transmission grid. Such
7 investment opportunities in new transmission lines traversing our
8 service territory are essential for Westar to succeed in its business
9 strategy of modest growth and moderate returns.

10 **Q. PLEASE DESCRIBE THE BENEFITS THAT WILL BE REALIZED**
11 **AS A RESULT OF WESTAR'S COMPLETION OF THIS LINE.**

12 A. Under certain contingencies, the existing 230 kV transmission line is
13 overloaded and creates a restriction in the transmission system. This
14 condition limits the ability to move electric power away from Jeffrey
15 Energy Center and may cause Westar to purchase electric energy
16 from other sources at higher costs. Along with providing a remedy
17 for this issue, the new line will contribute to a stronger, more robust
18 transmission grid, with Kansans and the entire region benefiting from
19 increased reliability. Further, reconstruction of the JEC to East
20 Manhattan line will provide for more efficient use of existing Westar
21 generation resources and reduce line losses.

22 **Q. HOW MUCH WILL IT COST TO CONSTRUCT THE NEW LINE?**

1 A. We currently estimate that it will cost approximately \$58.3 million to
2 construct Westar's portion of the line and the required substation
3 upgrades. This is an estimate that could change after we have an
4 approved route and as we move toward final design of the line. The
5 cost to construct the line will be affected by numerous factors.
6 Among the items that will affect construction costs are changes to
7 the preferred route; changes in prices of metals such as copper,
8 nickel, steel, and aluminum that affect the cost of poles, wire, and
9 other components of the line; changes in labor costs as the demand
10 for workers with the necessary skills to construct transmission
11 facilities increases; structure design; and the actual cost to acquire
12 necessary rights-of-way.

13 **Q. HOW WILL THE COST OF THE LINE BE RECOVERED?**

14 A. Because the line has been approved by the SPP as a base plan
15 project, under the highway-byway method 33% of the costs
16 associated with the project will be allocated regionally and the
17 remaining 67% of the costs will be allocated to the Westar pricing
18 Zone. Westar witness Julie Lux will further discuss how the cost of
19 the line will be recovered.

20 **Q. WHEN DOES WESTAR EXPECT THE LINE TO BE IN SERVICE?**

21 A. We expect the line to be completed and in service in June of 2017.

22 **Q. WILL WESTAR PRESENT OTHER TESTIMONY IN THIS CASE?**

1 A. In addition to my testimony, Westar is submitting testimony from the
2 following witnesses:

3 Julie Lux, Westar Energy - Director of Regulatory Compliance
4 – discussing the method through which Westar’s costs for
5 building the proposed line will be recovered and charged to
6 customers; and

7 Kristi Wise, Burns and McDonnell Engineering - Project
8 Manager– discussing the preferred route for the line and the
9 siting process that was used to select the preferred route.

10 Westar understands that the SPP will be submitting testimony
11 in support of Westar’s application within a few days of Westar’s filing
12 with the Commission. In that testimony, SPP will present the results
13 of the benefit-cost analysis it conducted when deciding whether to
14 authorize construction of the project for which Westar is requesting
15 siting approval.

16 **III. DESCRIPTION OF THE PROPOSED PROJECT**

17 **Q. DESCRIBE THE PROJECT AND THE PREFERRED ROUTE**
18 **PROPOSED BY WESTAR IN THIS DOCKET.**

19 A. This project involves replacing the existing single circuit 230 kV line
20 from JEC to East Manhattan. The new line will be a single circuit line
21 engineered and built to 345 kV standards with larger bundled
22 conductor. The new line will continue to be operated at 230 kV, but
23 the larger bundled conductor will eliminate the restrictions identified
24 by the SPP modeling. The new line will connect to Westar’s JEC
25 Substation and Westar’s East Manhattan Substation. Westar’s
26 project will also involve upgrading components in both substations to

a minimum emergency rating of 2,000 amps. Figure 1 is a map depicting the location of the existing 230 kV line that we are replacing.

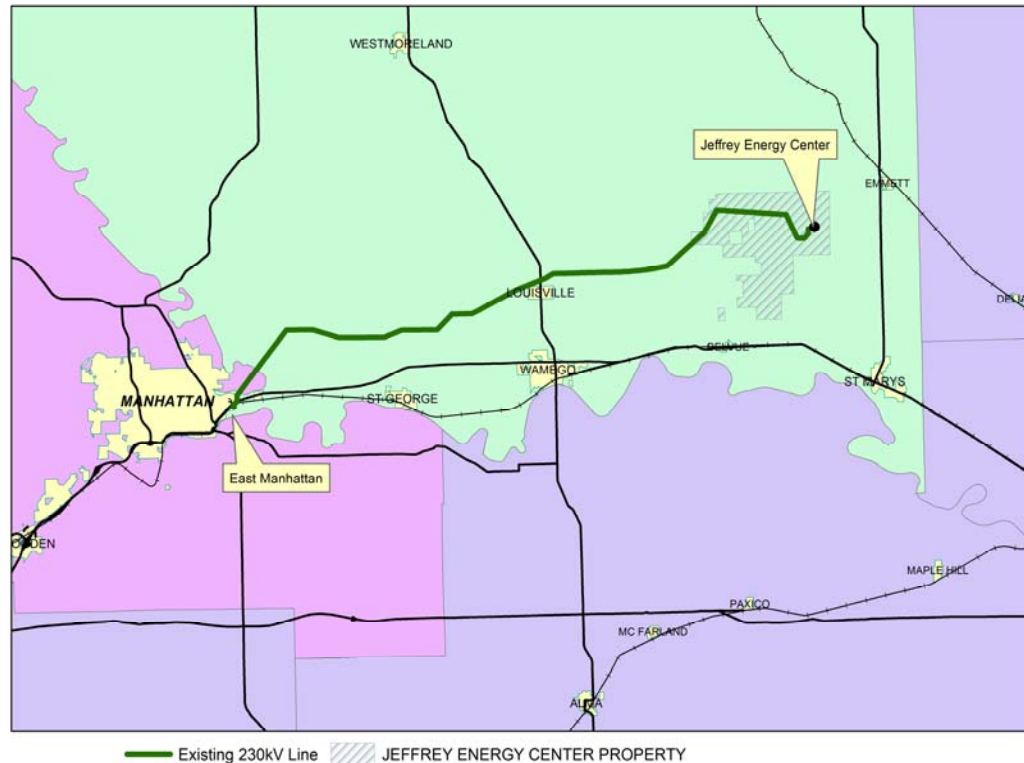


Figure 1

The final preferred route selected by Westar runs near the existing transmission line through Riley and Pottawatomie Counties and is approximately 25.6 miles long. An overview of the final preferred route is shown below as Figure 2. Detailed maps of the final preferred route that Westar is submitting for approval are shown as Exhibit KBH-1, Sheets 1 through 22.

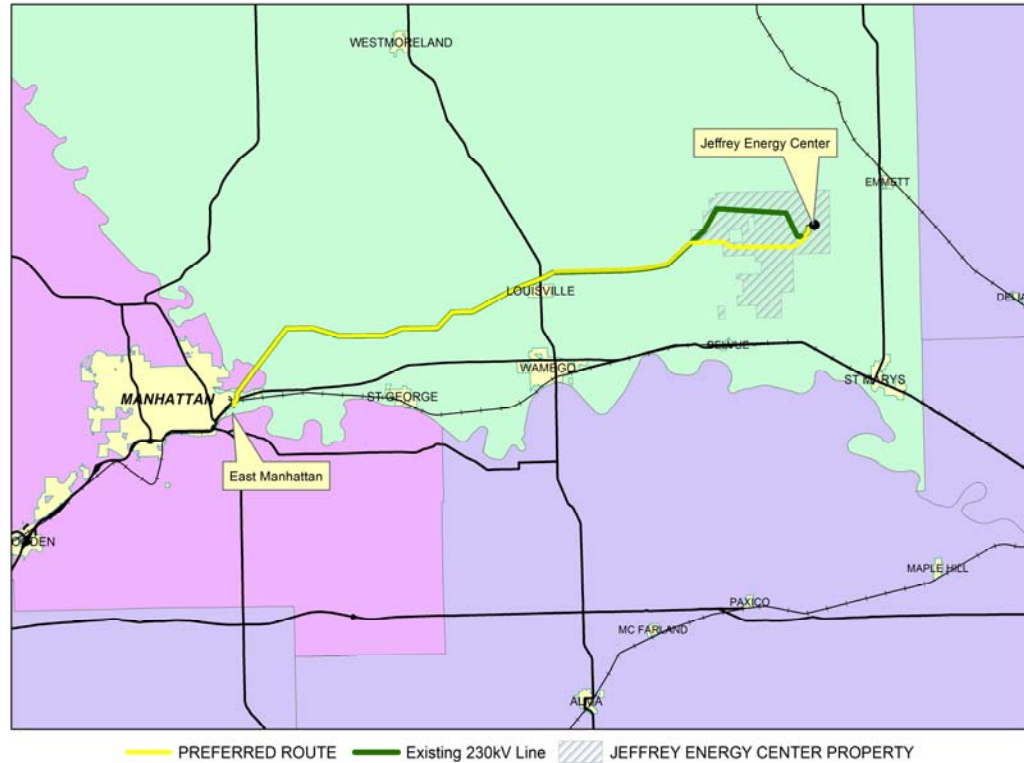


Figure 2

Q. PLEASE DESCRIBE HOW THE JEC to EAST MANHATTEN PROJECT WAS IDENTIFIED AS A TRANSMISSION PROJECT.

A. The Integrated Transmission Plan (ITP) is SPP's approach to planning transmission needed to maintain reliability, provide economic benefits, and achieve public policy goals to the SPP region in both the near and long-term. The ITP enables SPP and its stakeholders to facilitate the development of a robust transmission grid that provides regional customers improved access to the SPP region's diverse resources. Development of the ITP is driven by planning principles developed by the Synergistic Planning Project Team (SPPT), a team that I served on, including the need to develop

1 a transmission backbone large enough in both scale and geography
2 to provide flexibility to meet SPP's future needs.

3 The first phase of the ITP study process was completed with
4 the SPP Board of Directors' acceptance of the 2010 ITP 20-year
5 (ITP20) Report on January 25, 2011. A group of Network Upgrade
6 projects, including the JEC to East Manhattan project, was
7 subsequently approved by the SPP Board of Directors as part of
8 2014 Integrated Transmission Planning Near-Term (ITPNT)
9 Assessment on January 28, 2014.

10 The ITP Near-Term Assessment is performed annually and
11 assesses system upgrades, at all applicable voltage levels required
12 in the near term planning horizon to address reliability. The ITP
13 Near-Term assessment used two scenario models built across
14 multiple years and seasons to evaluate power flows across the grid
15 to account for various system conditions across the near-term
16 horizon. The goals of the ITP Near-Term are to:

- 17 a) Resolve potential reliability criteria violations;
- 18 b) Improving access to markets;
- 19 d) Improving interconnections with SPP's neighbors
- 20 e) Meeting expected load growth demands
- 21 f) Facilitating or responding to expected facility retirements

1 The SPP ITP Near-Term assessment identified the reliability
2 need to replace the existing 230 kV JEC to East Manhattan
3 transmission line due to overloading conditions.

4 **Q. DID WESTAR PERFORM A STUDY OF THE TRANSMISSION**
5 **SYSTEM TO VERIFY THE SPP STUDY RESULTS?**

6 A. Westar did not perform any additional studies outside of the SPP ITP
7 Near-Term Assessment to address the loading on the 230 kV JEC
8 to East Manhattan transmission line. However, Westar and other
9 transmission entities directly participate in the ITP study process by:

- 10 a) Providing and reviewing model data;
11 b) Confirming results;
12 c) Providing feedback and solutions for potential violations.

13 **Q. DID WESTAR PROVIDE A SOLUTION TO SPP TO REMEDY THE**
14 **OVERLOADING CONDITION OF THE EXISTING 230 kV**
15 **TRANSMISSION LINE?**

16 A. Yes. To address the overload of the existing East Manhattan to
17 Jeffrey Energy Center 230 kV line, Westar proposed rebuilding the
18 230 kV line from East Manhattan to Jeffrey Energy Center with a new
19 transmission line with increased capacity. Westar proposed that the
20 new transmission line utilize larger bundled conductor and also that
21 the line be engineered and constructed to 345 kV standards. The
22 line will be operated at 230 kV until a later point in the future. The
23 benefits of constructing the line to 345 kV standards, even though it

1 will continue to be operated at 230 kV for a period of time, include
2 the ability to more easily convert the line to 345 kV at a later date and
3 possibly to expand the line from Manhattan to the Elm Creek
4 substation or to Nebraska without having to rebuild the line at 345 kV
5 at that time. Additionally, there is minimal incremental cost difference
6 between construction to 230 kV and 345 kV standards.

7 **Q. DOES WESTAR AGREE WITH THE SPP STUDY THAT THE**
8 **PROJECT IS NEEDED AND WILL ENHANCE THE RELIABILITY**
9 **OF THE TRANSMISSION SYSTEM?**

10 A. Yes, Westar agrees with the SPP ITP Near-Term study results that
11 the 230 kV JEC to East Manhattan transmission line will need to be
12 replaced to ensure continued reliability of the transmission system.

13 The North American Electric Reliability Corporation (NERC)
14 develops and enforces Reliability Standards to address events and
15 identifiable risks, thereby improving the reliability of the bulk power
16 system. Westar is required to demonstrate through a valid
17 assessment, in this case the 2014 ITPNT Assessment, that its
18 portion of the interconnected transmission system is planned such
19 that the Network can be operated to supply projected customer
20 demands and projected Firm (non-recallable reserved) Transmission
21 Services, at all demand levels over the range of forecast system
22 demands, under the contingency conditions as defined in Category
23 B of Table I of TPL-002-2b.

1 If we do not rebuild this line, there is a risk that we will have to
2 decrease the output of Jeffrey Energy Center to reduce loading on
3 this transmission line. The existing condition on the line limits the
4 ability to move electric power away from Jeffrey Energy Center and
5 may cause Westar to purchase electric energy from other sources at
6 higher costs.

7 **Q. DID SPP AGREE WITH WESTAR'S PROPOSED SOLUTION TO**
8 **REBUILD THE EXISTING 230 KV LINE TO REMEDY THE**
9 **OVERLOADING CONDITION?**

10 A. Yes. SPP, as the Planning Coordinator, has the obligation to validate
11 and make sure the best solution is ultimately selected. SPP has the
12 right to propose alternative lower cost projects while keeping in mind
13 long-term strategic solutions. In the ITPNT, SPP identified a
14 potential overload in 2017 on the line which will require a solution to
15 maintain compliance with NERC Reliability Standards. Westar
16 submitted the project as a potential solution. After SPP testing, SPP
17 agreed with Westar's proposal and issued a Notice-To-Construct to
18 Westar. All the background information on the process is
19 documented in the 2014 Integrated Transmission Planning Near-
20 Term Assessment posted on SPP's website.

21 **Q. HAS SPP ISSUED A NOTIFICATION TO CONSTRUCT (NTC) FOR**
22 **WESTAR'S PROPOSED PROJECT?**

1 A. Yes. On February 19, 2014, SPP issued a NTC for this project to
2 Westar. The NTC was conditioned on not ordering materials or
3 beginning construction until the submittal to SPP of a refined project
4 cost estimate (CPE). The refined CPE was required to have a
5 variance bandwidth of $\pm 20\%$ not exceeding the Study Estimate
6 variance bandwidth of $\pm 30\%$. Westar could only proceed under the
7 NTC if the refined CPE was within this variance bandwidth or if the
8 SPP Board of Directors reevaluated the project if the CPE exceeded
9 the Study Estimate variance bandwidth. The NTCs identified
10 replacing the existing 230 kV line with a new line engineering and
11 constructed to 345 kV standards but operated at 230 kV voltage
12 between Westar's JEC Substation and Westar's East Manhattan
13 Substation. A copy of this initial NTC received by Westar is attached
14 as Exhibit KBH-2, Sheets 1 through 4 with our response accepting
15 the NTC attached as Exhibit KBH-2, Sheet 5 through 7.

16 **Q. HOW DID WESTAR ARRIVE AT THE REFINED PROJECT COST**
17 **ESTIMATE?**

18 A. In order to refine the project cost estimate, Westar chose to proceed
19 with a routing study to determine potential routes, thus reducing the
20 risks associated with routing uncertainty. Westar engaged Burns &
21 McDonnell to perform this study. We used the potential routes to
22 produce our CPE for the project.

1 **Q. WAS WESTAR’S CPE WITHIN THE SPP ALLOWED VARIANCE**
2 **BANDWIDTH TO RELEASE THIS PROJECT FOR**
3 **CONSTRUCTION?**

4 A. Yes. Westar’s CPE was within the variance required by SPP.

5 **Q. HAS SPP REMOVED THE CONDITIONS PLACED ON THE NTC?**

6 A. Yes. SPP removed the conditions placed on the NTC by re-issuing
7 the NTC on September 2, 2014, a copy of which is attached as
8 Exhibit KBH-2, Sheets 8 through 11. Westar’s response accepting
9 the NTC is attached as Exhibit KBH-2, Sheets 12 through 14.

10 **IV. ROUTING STUDY**

11 **Q. WHY DID WESTAR DECIDE TO PERFORM A ROUTING STUDY**
12 **SINCE THIS PROJECT INVOLVES REPLACING AN EXISTING**
13 **TRANSMISSION LINE?**

14 A. Westar reviewed the NTC requirements, the easements for the
15 existing 230 kV line, our transmission system operating parameters,
16 and the current land uses near the existing 230 kV line. We identified
17 the following challenges to replacing the line on the existing right of
18 way:

19 a) Existing 230 kV line is on easements that are only 100 feet
20 wide. A typical 345 kV line requires a 150 foot easement.

21 b) Approximately 16 miles of the east end of the 230 kV line
22 is directly adjacent to a 345 kV transmission line that
23 extends from Salina to JEC. The 230 kV line and the 345

1 kV line are approximately 125 feet apart centerline to
2 centerline.

3 c) The land use on the western end of the existing line has
4 experienced a considerable residential and commercial
5 development expansion directly next to the existing
6 transmission line.

7 d) Modeling of the transmission system indicates that we
8 cannot take the existing 230 kV transmission line out of
9 service during the summer season from June to mid-
10 September due to system needs. This limits the
11 construction period for the project to replace the line if it is
12 built on the existing right of way.

13 e) If the existing 230 kV line is taken out of service during the
14 winter, spring and fall period, it creates additional price risk
15 to customers. If any other transmission line connected to
16 the JEC substation has an issue during the outage of the
17 230 kV line, the output of JEC will need to be reduced (de-
18 rated). In this situation, Westar will be required to purchase
19 replacement power from another source. On an average
20 market day, this replacement power costs more than power
21 generated at JEC. This additional cost is passed along to
22 our customers.

1 All of the challenges noted above can be eliminated if the new line is
2 constructed on a new alignment while the existing line continues to
3 operate. We also acknowledged that many things have changed
4 since the existing 230 kV line was built in the early 1980's. Today
5 we have many more permitting requirements, environmental
6 concerns, and different land uses. After much deliberation, we
7 concluded that we needed to perform a thorough siting study to
8 determine if an alternate route could be identified. We also wanted
9 to engage the public in the process to get feedback on other potential
10 routes.

11 **Q. PLEASE DESCRIBE THE PROCESS USED TO PERFORM THE**
12 **ROUTING STUDY AND SELECT THE PREFERRED ROUTE FOR**
13 **THE LINE.**

14 A. The first step was to assemble an internal project team that consists
15 of Westar employees from Real Estate Services, Transmission
16 Planning, Transmission Operations, Transmission and Substation
17 Engineering, Transmission & Substation Construction,
18 Conservation, Corporate Communications, Government Affairs,
19 Regulatory, and Legal. With a goal of minimizing impacts to
20 landowners, residents, and the environment, we engaged the
21 consulting firm of Burns & McDonnell (BMCD) to assist us with the
22 transmission line siting process. BMCD's Ms. Wise led the siting

1 process and the attached testimony describes the routing study
2 process used to determine the preferred route.

3 **Q. WERE ANY ADJUSTMENTS MADE TO THE BURNS &**
4 **McDONNELL PREFERRED ROUTE IDENTIFIED IN THE SITING**
5 **STUDY?**

6 A. Yes. After we identified the preferred route through the Burns &
7 McDonnell siting study process, we reviewed in detail some of the
8 areas that we felt we could improve the alignment of the transmission
9 line. Specifically, there were many areas between the Louisville area
10 and the East Manhattan substation that have housing and
11 businesses on both side of the preferred routes. In these areas we
12 developed proposed routes that separated from the existing line and
13 were routed around the perimeter of the developments. In some
14 cases this caused the development to be surrounded by high voltage
15 transmission lines and added several heavy angles to the
16 transmission line. We also reviewed plans provided by landowners
17 of several platted subdivisions near the east end of the transmission
18 line. We examined potential solutions to rebuilding the line in these
19 constricted areas and determined that it is feasible, in limited areas,
20 to remove the existing line and rebuild the new line on essentially the
21 same alignment. In these limited areas, we plan to perform the
22 construction work during scheduled JEC plant outages and use
23 alternate construction techniques to work under the existing 230 kV

1 line. After careful consideration of all the factors, we believe it is best
2 to utilize the existing right-of-way and place the majority of the new
3 line on the same right-of-way as the existing 230 kV line in the area
4 from the Louisville cemetery to the East Manhattan substation.
5 Although we are utilizing the existing right-of-way in this area, we will
6 require some additional easements nominally between 25 and 50
7 feet wide on each side of the existing easement. We believe this
8 decision to utilize the existing right-of-way also reflects the wishes of
9 the landowners in these areas and improves the preferred route.

10 **Q. WERE ANY OTHER ADJUSTMENTS MADE TO THE**
11 **PREFERRED ROUTE IDENTIFIED IN THE BURNS & MC**
12 **DONNELL SITING STUDY?**

13 A. Yes. At the east end of the preferred route, the line is routed on
14 property owned by Westar Energy near JEC for approximately 6
15 miles. The alignment of the preferred route was modified on Westar
16 Energy property to avoid newly permitted landfill areas that are
17 directly under the existing 230 kV line. These changes reduced the
18 overall line mileage and the full width of the right-of-way will be on
19 property owned by Westar Energy. Westar also requests that the
20 KCC allow additional flexibility to revise the route on JEC property in
21 the future. We have not fully identified the below ground utilities at
22 this time and our plans for permitted landfills on JEC property

1 continue to develop. It may be necessary to adjust the alignment
2 once these items have been finalized.

3 **Q. PREVIOUSLY YOU LISTED MANY CHALLENGES TO**
4 **REBUILDING THE LINE ON THE EXISTING RIGHT-OF-WAY,**
5 **HOW WERE THESE CHALLENGES ADRESSED FOR THE**
6 **PREFERRED ROUTE?**

7 A. Westar was able to develop a plan to construct a portion of the
8 preferred route on the existing right-of-way during scheduled JEC
9 outages that occur outside of the summer season. Westar also
10 believes that we can perform some of the work, such as installing
11 drilled piers, hauling structures, and framing structures under the de-
12 energized, but not dismantled, existing line. Should we have an
13 unplanned event on another transmission line connected to the JEC
14 substation, we have the flexibility to stop the construction activities,
15 move crews and equipment out from under the existing 230 kV line
16 and re-energize the line.

17 **Q. WHAT OBJECTIVES DID WESTAR PURSUE IN CHOOSING**
18 **POTENTIAL ROUTES FOR THE PROPOSED TRANSMISSION**
19 **LINE?**

20 A. The objective of the routing analysis was to identify economically
21 feasible routes that connect JEC and the East Manhattan Substation.
22 Routes were developed that offered the most benefits in terms of
23 providing reliable electric power transmission and also minimized

adverse impacts to the social and natural environment. The major concerns during the development of potential routes were to:

- 1) Maximize the distance of the line from existing homes, businesses and public buildings,
- 2) Maintain reliable electric service by developing realistic and feasible routes,
- 3) Minimize overall environmental impacts by maximizing the use of existing road and transmission line rights-of-way,
- 4) Minimize, to the extent practicable, diagonal routes across tilled agricultural fields,
- 5) Avoid impacts to private airstrips in the project area,
- 6) Avoid impacts to any existing center-pivot irrigation system by locating the lines along the tangent of the system's arc,
- 7) Avoid crossing directly over oil wells, water wells and oil storage tanks, and
- 8) Minimize potential impacts to wetlands and other environmentally sensitive areas, threatened and endangered species and lesser prairie chicken habitat.

Q. WAS WESTAR ABLE TO IDENTIFY A ROUTE THAT AVOIDED ALL IMPACTS?

1 A. No. The routing study comprised 55 individual segments that could
2 be combined to form 5,304 alternate routes. Even though we studied
3 numerous alternate routes, it was not possible to find a route that
4 avoided all impacts. The routing study was successful in identifying
5 the routes that had least amount of impact and was instrumental in
6 selecting the preferred route that we are seeking to be approved.

7 **Q. HOW WERE LANDOWNERS INFORMED OF WESTAR'S INTENT**
8 **TO SOLICITE FEEDBACK REGARDING POTENTIAL ROUTES**
9 **REGARDING CONSTRUCIOTN OF THE NEW LINE?**

10 **A.** Once the potential routes were finalized, we used property
11 ownership data from each county to identify the landowners within
12 1000 feet of the centerline of each of the potential routes. The
13 potential routes were located in Pottawatomie and Riley counties in
14 north-east Kansas. Burns & McDonnell obtained digital property
15 ownership data for all property owners who own property located
16 within 1,000 feet of the proposed routes from Pottawatomie and Riley
17 counties.

18 Using information gathered in this manner, we sent a letter to
19 each landowner to advise him/her that Westar was proposing to
20 construct a new high-voltage line near his/her property and inviting
21 each of them to the open houses. We identified the dates, times and
22 locations of the December open houses in the letter. Copies of the

1 form invitation letter are shown in Exhibit KBH-3, Sheets 1 through
2 3.

3 The potential routes under consideration were shown to the
4 public by Westar at two open house meetings in early December
5 2014 in order to gather additional input from area landowners. Open
6 houses were held in the Wamego Senior Center on December 3 and
7 4, 2014. At each open house, Westar representatives provided
8 information on the purpose and need for the project and potential
9 routes (shown on aerial photographs and maps of the project area).
10 Burns & McDonnell attended the open houses using five computer
11 stations with operators that allowed landowners to zoom in to their
12 respective properties, measure distances to potential routes, and
13 provide feedback that was captured electronically in real time. We
14 also provided information on the design and construction of the
15 project, typical land requirements for the new line, and the process
16 Westar will use to obtain easements. During these public meetings,
17 Westar and Burns & McDonnell made notations to the maps and
18 photos with information provided by the area landowners for
19 consideration during the route selection process.

20 At the open houses, Westar representatives also handed out
21 project fact sheets and questionnaires included as Exhibit KBH-3,
22 Sheets 4 through 8. Participants were encouraged to complete the
23 questionnaires and turn them in before leaving the open house or to

1 mail them in at a later date. Some people who were unable to attend
2 the open houses later called Westar and requested information or
3 provided comments. These individuals were provided information as
4 requested. A total of 209 responses were received from those who
5 attended the open houses or requested individual information. A
6 detailed summary of the questionnaire results is presented as part
7 Ms. Wise's testimony.

8 **Q. HOW WIDE WILL THE RIGHT-OF-WAY BE FOR THE PROPOSED**
9 **LINE?**

10 A. The nominal width of the right-of-way will be 150 feet. However, the
11 right-of-way could be more or less in specific areas depending on
12 span length, conductor sag and wind characteristics. The final right-
13 of-way width will be determined during detailed design.

14 **Q. WILL LANDOWNERS BE ABLE TO USE THE LAND ON WHICH**
15 **THE LINE WILL BE CONSTRUCTED?**

16 A. Yes. Landowners will be able to use the line right-of-way for any
17 agricultural purpose that does not interfere with use of the line at its
18 full rated capacity. However, landowners will not be permitted to
19 conduct business in the right-of-way that would be hazardous to the
20 landowner, the line, or the general public (such as a pipe storage
21 yard or tree farm). No foreign structures or buildings will be permitted
22 in any part of the right-of-way. Trees and brush in the right-of-way
23 will be trimmed or removed. Herbicides will be used to control the

1 re-growth of woody vegetation in the right-of-way except in the case
2 of certified organic farms or similar situations.

3 **Q. WILL WESTAR OBTAIN EASEMENTS FOR THE RIGHT-OF-WAY**
4 **ON WHICH THE LINE WILL BE CONSTRUCTED?**

5 A. Yes. Easements will be obtained from landowners prior to
6 construction of the proposed line. Landowners will also be
7 compensated for all damages including crop losses that are directly
8 attributable to construction of the proposed line.

9 **Q. HAS WESTAR TAKEN STEPS TO MINIMIZE EXPOSURE TO**
10 **ELECTROMAGNETIC FIELDS?**

11 A. Yes. Westar took the electromagnetic field produced by operation of
12 the line into consideration when establishing its route siting criteria.
13 Westar does not consider electromagnetic fields to be a health threat
14 based on published information. However, Westar has adopted a
15 prudent avoidance approach to the siting of all electric facilities. This
16 approach is characterized by the siting of transmission facilities in a
17 manner that minimizes exposure to electromagnetic fields. A
18 minimum horizontal clearance distance of 50 feet from the closest
19 phase of the line to existing dwellings will be maintained wherever
20 possible.

21 **Q. HOW WILL WESTAR MITIGATE THE EFFECT OF THE ELECTRIC**
22 **AND MAGNETIC FIELDS PRODUCED BY THE PROPOSED**
23 **LINE?**

1 A. Non-electric wire fence within 150 feet of the center of the line right-
2 of-way will be grounded at intervals to limit the electromagnetically
3 induced level of static charges to a safe level. Wire fences that cross
4 the line route will be grounded at both edges of the right-of-way.
5 Electric fences will be grounded where necessary with the addition
6 of a 60 Hz series filter at each grounding location. Permanently
7 installed metallic objects within 150 feet of the outside phase
8 conductor of the line will be grounded. Conductor minimum ground
9 clearance will be chosen to limit induced voltage in ungrounded
10 metallic objects (such as a vehicle parked near the line) to a value
11 that keeps induced current to less than 5 milli-amperes.

12 **Q. PLEASE DESCRIBE WHAT WESTAR HAS DONE TO MINIMIZE**
13 **THE ENVIRONMENTAL IMPACT OF THE LINE?**

14 A. Westar has a stated objective to minimize adverse social and
15 environmental impacts of the line. To accomplish this objective,
16 Westar avoided all major environmental constraints and utilized
17 criteria to select the line's route that by design prevent or minimize
18 social and environmental impacts. Westar has followed and will
19 continue to adhere to the recommendations given by state and
20 federal agencies for procedures that protect the biological, cultural,
21 and historical resources for the areas traversed by the line.

V. TRANSMISSION LINE AND SUBSTATION DESIGN

Q. HOW WILL THE NEW 345 KV TRANSMISSION LINE BE DESIGNED?

A. Detailed design work for the proposed line has not yet been done, but we can describe designs that are typical for a line of this type. The proposed line will be constructed using steel tubular structures in either a single pole or H-frame configuration. The structures would be spaced approximately 600 to 1200 feet apart. Tangent structures will either be directly embedded using a crushed rock backfill or placed on concrete pier foundations, depending on the soil conditions encountered. The minimum ground clearance for the line will conform to 345 kV circuit standards required by the National Electric Safety Code. Drawings of typical H-frame and single pole structures are provided in Exhibit KBH-4, Sheets 1 through 5. The height of these structures will vary depending on span length, required clearances, and local terrain, but will typically range between 80 and 160 feet.

The proposed line will be constructed using 1590 KCM-ACSR 45/7 (Code Name "Lapwing"), aluminum, steel-reinforced conductors. This conductor is composed of 45 strands of aluminum wrapped around 7 steel strands. This line will utilize a two-conductor bundle for each of the three phases. The diameter of each conductor comprising the two-conductor bundle will be 1.502 inches. The two

1 conductors in each bundle will be approximately 18 inches apart and
2 will be arranged in a horizontal bundle. In a conductor of this type,
3 the aluminum strands carry the load current; the mechanical strength
4 to support the conductors is provided by the steel core. Non-ceramic
5 suspension insulators will be used to suspend the bundled phase
6 conductors.

7 The line will be protected from lightning by two overhead
8 ground wires strung at the uppermost extremity of the supporting
9 structures. One shield wire will be a steel cable and one will be
10 comprised of ten strands of aluminum-coated steel (alumoweld) wire
11 wrapped around a centrally located aluminum alloy pipe that
12 contains a number of optical fibers. The optical fibers will be used
13 as a communications medium for line protective relaying and for
14 internal communications.

15 **Q. PLEASE DESCRIBE THE DESIGN OF THE SUBSTATION**
16 **EQUIPMENT FOR THIS PROJECT.**

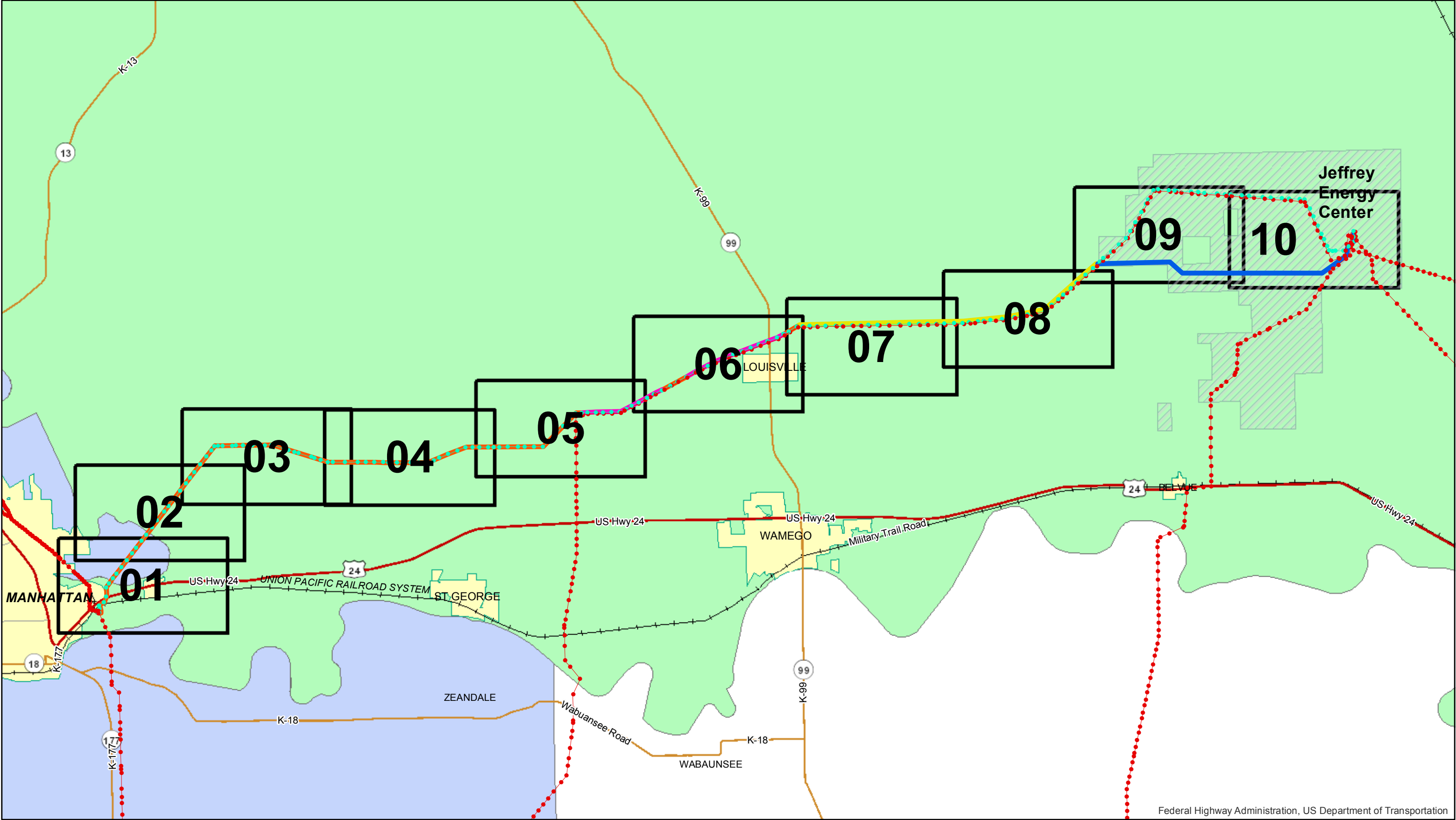
17 A. At both the JEC Substation and the East Manhattan Substation the
18 terminal equipment will be upgraded to carry a minimum emergency
19 rating of 2,000 amps. We do not anticipate any major substation
20 expansion work since the new line will continue to be operated at 230
21 kV on the same terminals. We will need to remove the wave traps
22 and upgrade the equipment to utilize fiber optic protection and control
23 systems along with replacing the breaker control panels.

1 **VI. CONCLUSION**

2 **Q. DO YOU HAVE ANY CONCLUDING COMMENTS?**

3 A. Yes. The Commission should grant Westar a siting permit for the
4 proposed line. Westar's analysis demonstrates that: 1) the line will
5 provide substantial economic benefits to Kansas electric customers
6 and the SPP region and will support economic development in
7 Kansas; 2) the SPP has authorized construction of the line; and 3)
8 the siting process Westar used was reasonable and appropriate.

9 **Q. THANK YOU.**



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

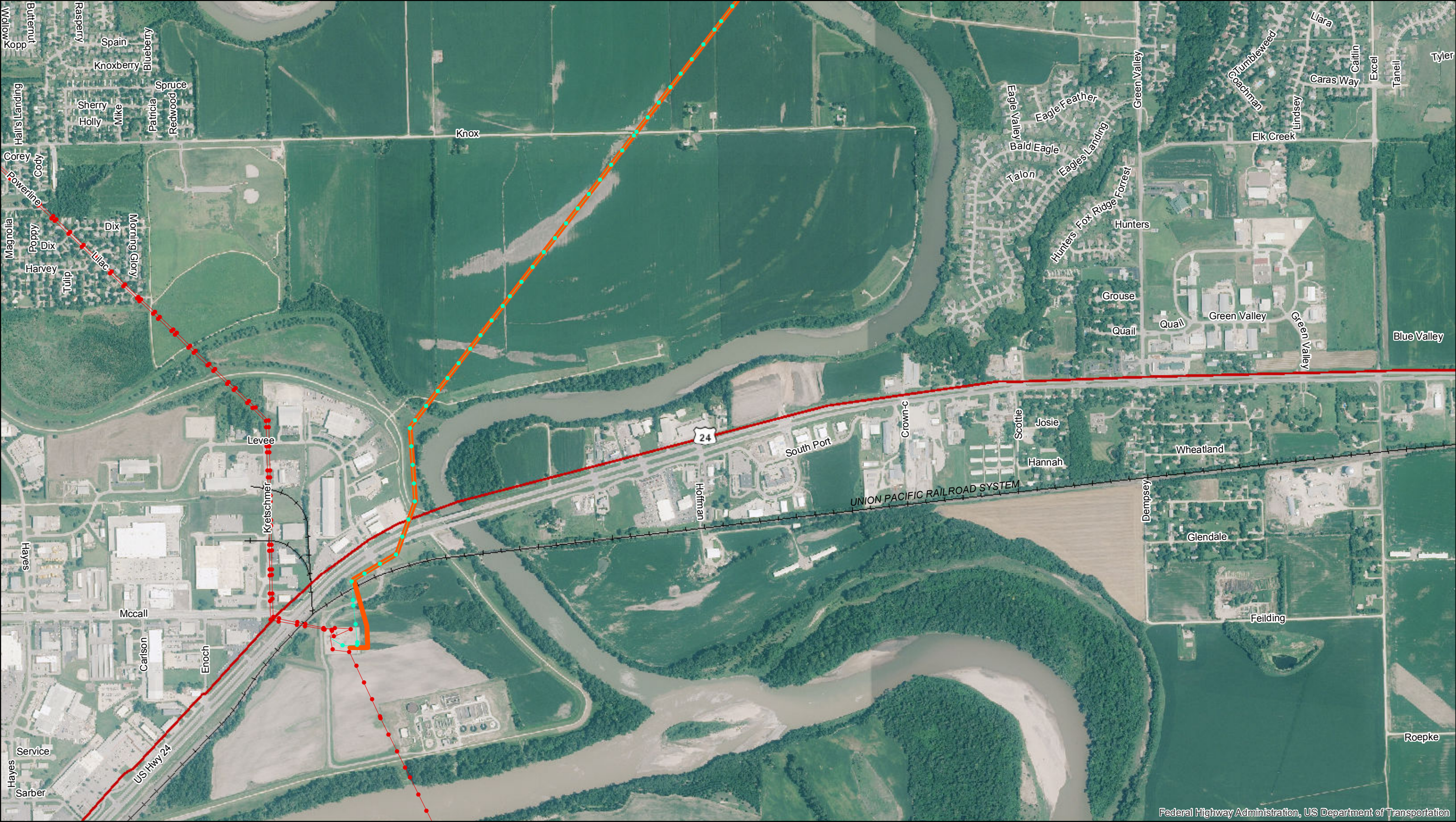
0 8,500 17,000 Feet

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Date: 2-16-15

Sheet No. 1

Exhibit KBH-1



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

0 1,000 2,000 Feet

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Date: 2-16-15

Sheet No. 2

Exhibit KBH-1



Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
 OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
 NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
 Existing 230kV Being Replaced

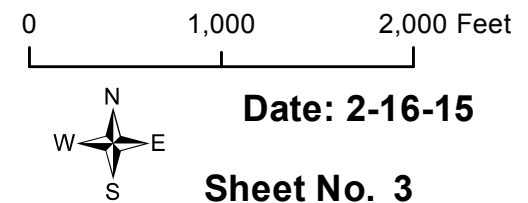
 WESTAR/JEC PROPERTY

Exhibit KBH-1



Weststar Preferred Route Submitted for KCC Approval


ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

 WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 4

Exhibit KBH-1



Weststar Preferred Route Submitted for KCC Approval


ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

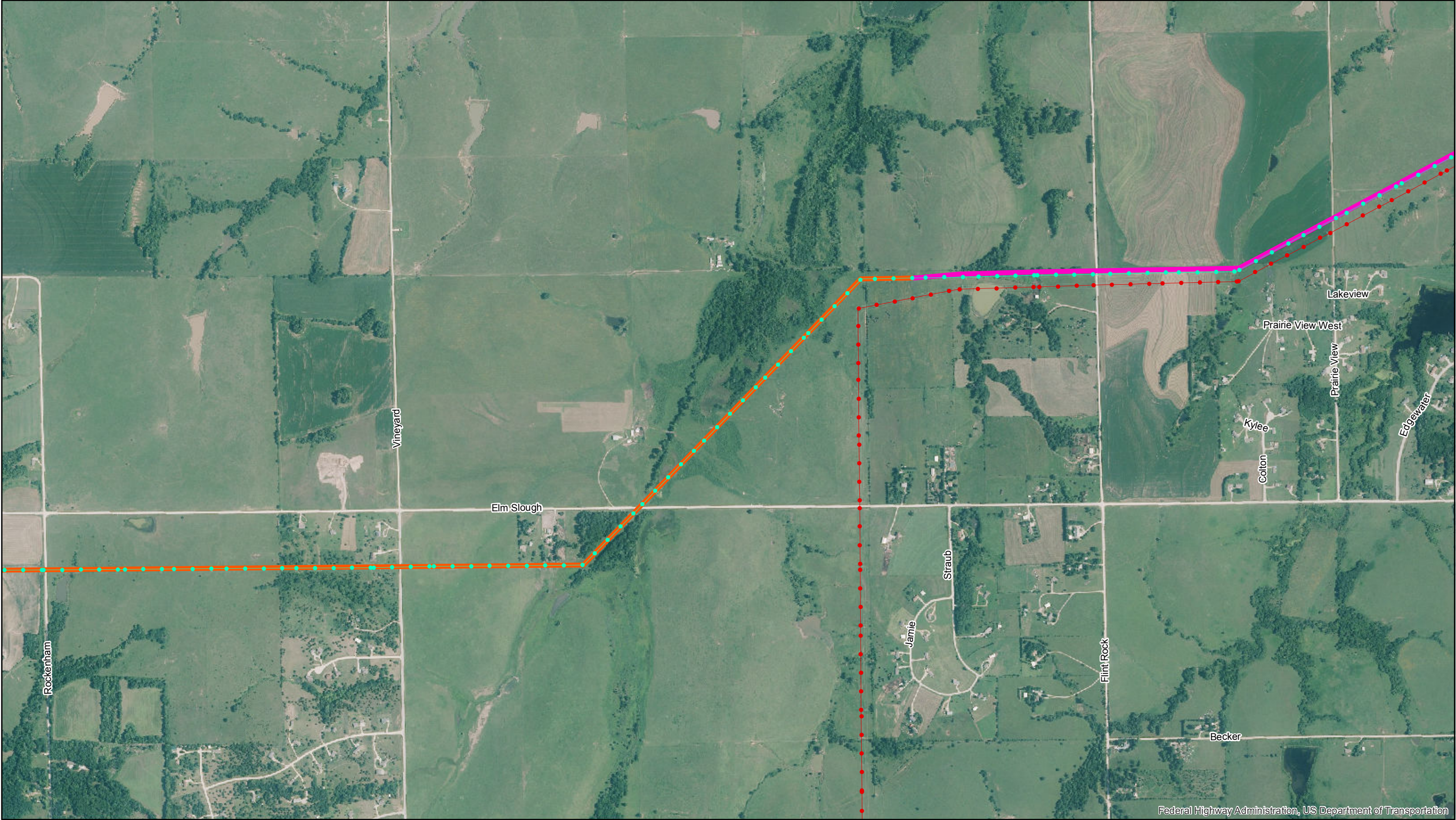
 WESTAR/JEC PROPERTY

0 1,000 2,000 Feet



Date: 2-16-15

Sheet No. 5




Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

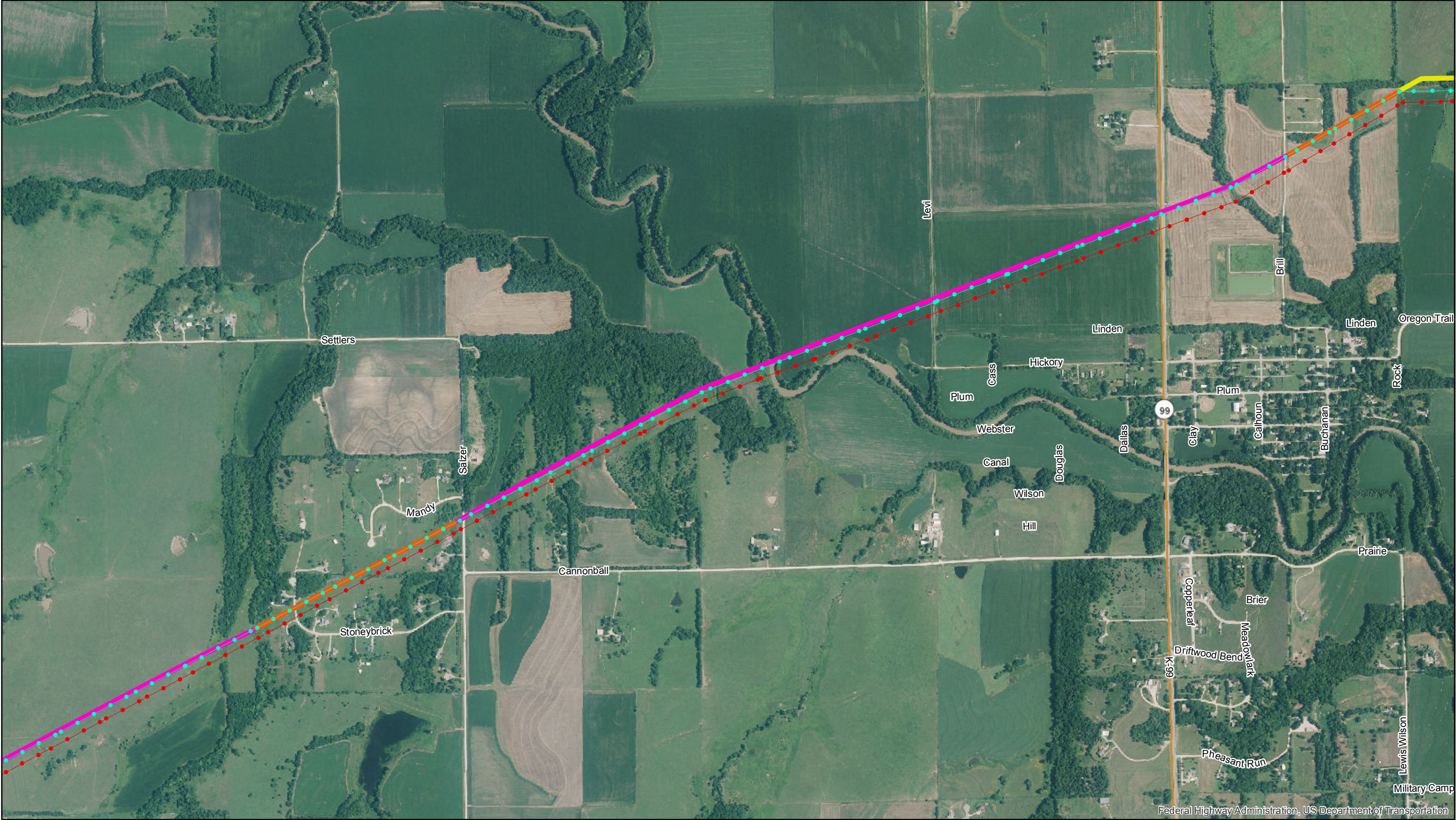
 WESTAR/JEC PROPERTY

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Date: 2-16-15

Sheet No. 6



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

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Feet

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Date: 2-16-15

Sheet No. 7



Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

01,0002,000 Feet

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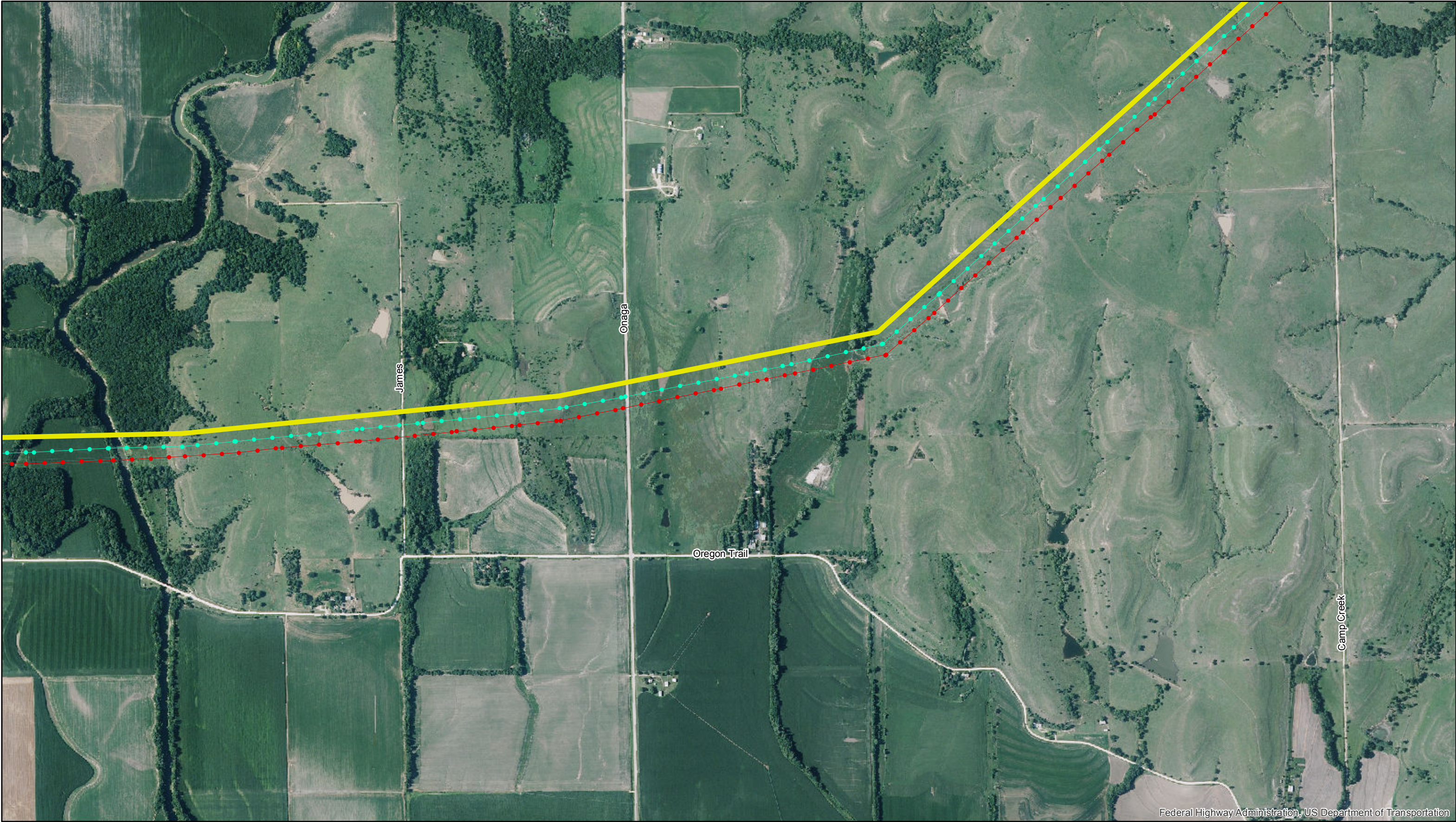
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Date: 2-16-15

Sheet No. 8



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

01,0002,000

Feet

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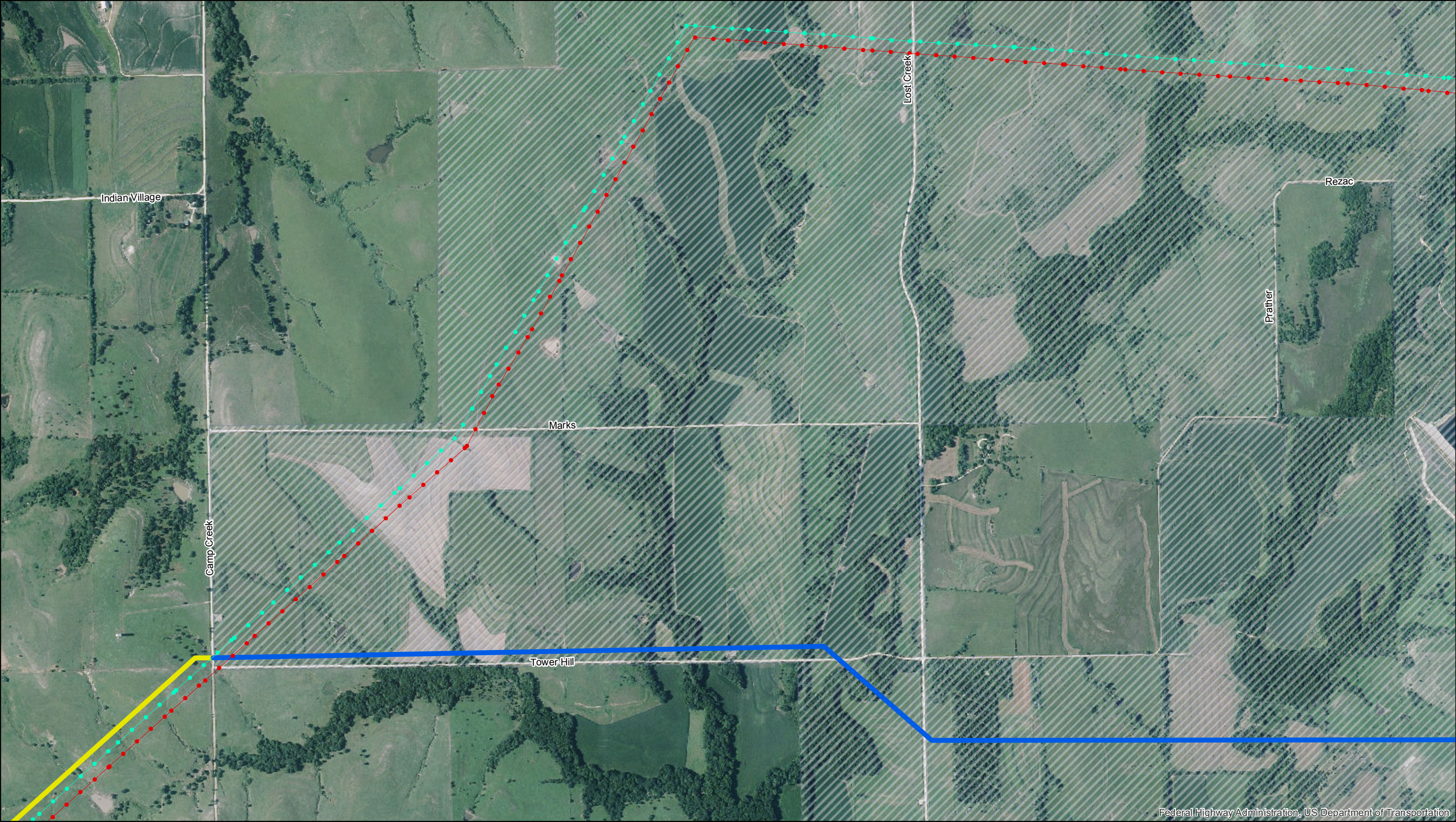
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Date: 2-16-15

Sheet No. 9

Exhibit KBH-1



Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

WESTAR/JEC PROPERTY

01,0002,000 Feet

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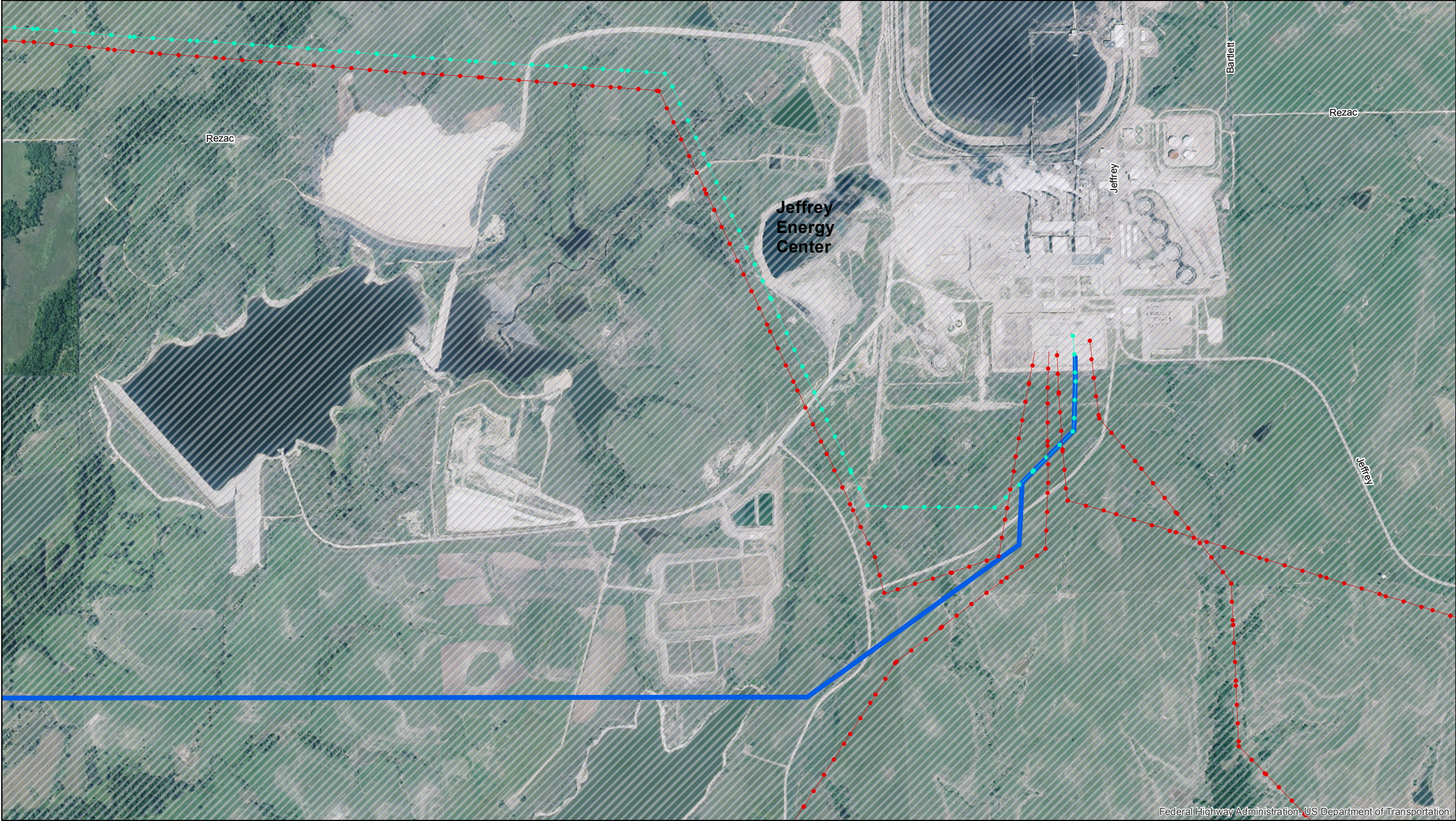
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Date: 2-16-15

Sheet No. 10





Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

- | | |
|--|---|
|  ON EXISTING CL |  OFFSET APPR 150 FT ON NEW ROW |
|  OFFSET APPR 50FT FROM EXIST CL |  NEW ROW ON WESTAR JEC PROP |

Existing Transmission Lines

- | |
|---|
|  Existing Transmission |
|  Existing 230kV Being Replaced |

 WESTAR/JEC PROPERTY

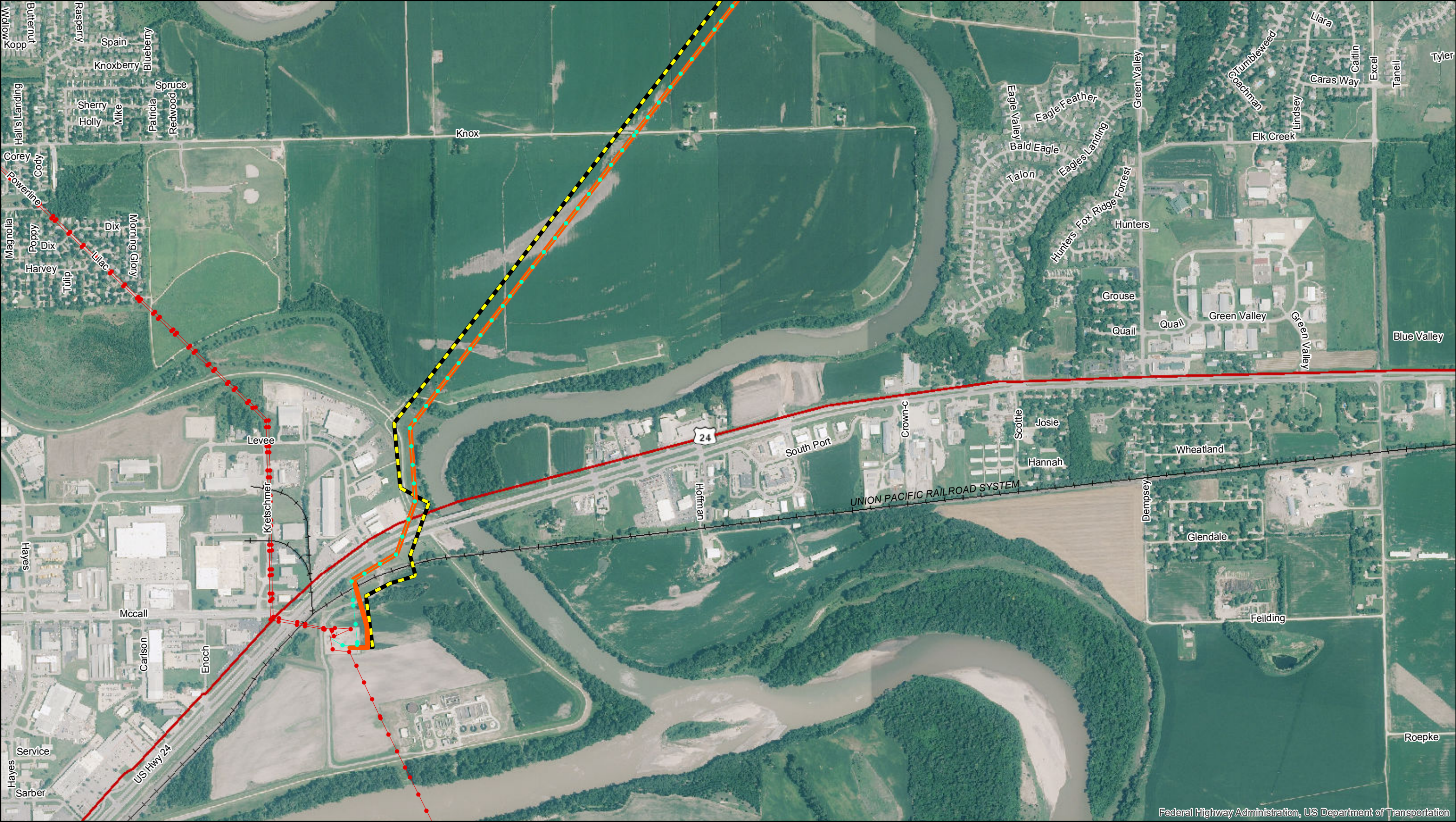
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Date: 2-16-15

Sheet No. 11

Exhibit KBH-1



Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

0 1,000 2,000 Feet

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Date: 2-16-15

Sheet No. 12

Exhibit KBH-1



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL	OFFSET APPR 150 FT ON NEW ROW
OFFSET APPR 50FT FROM EXIST CL	NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission
Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route
WESTAR/JEC PROPERTY

0 1,000 2,000 Feet

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Date: 2-16-15

Sheet No. 13

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 50FT FROM EXIST CL
- OFFSET APPR 150 FT ON NEW ROW
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

0 1,000 2,000 Feet

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Date: 2-16-15

Sheet No. 14

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

01,0002,000 Feet

N

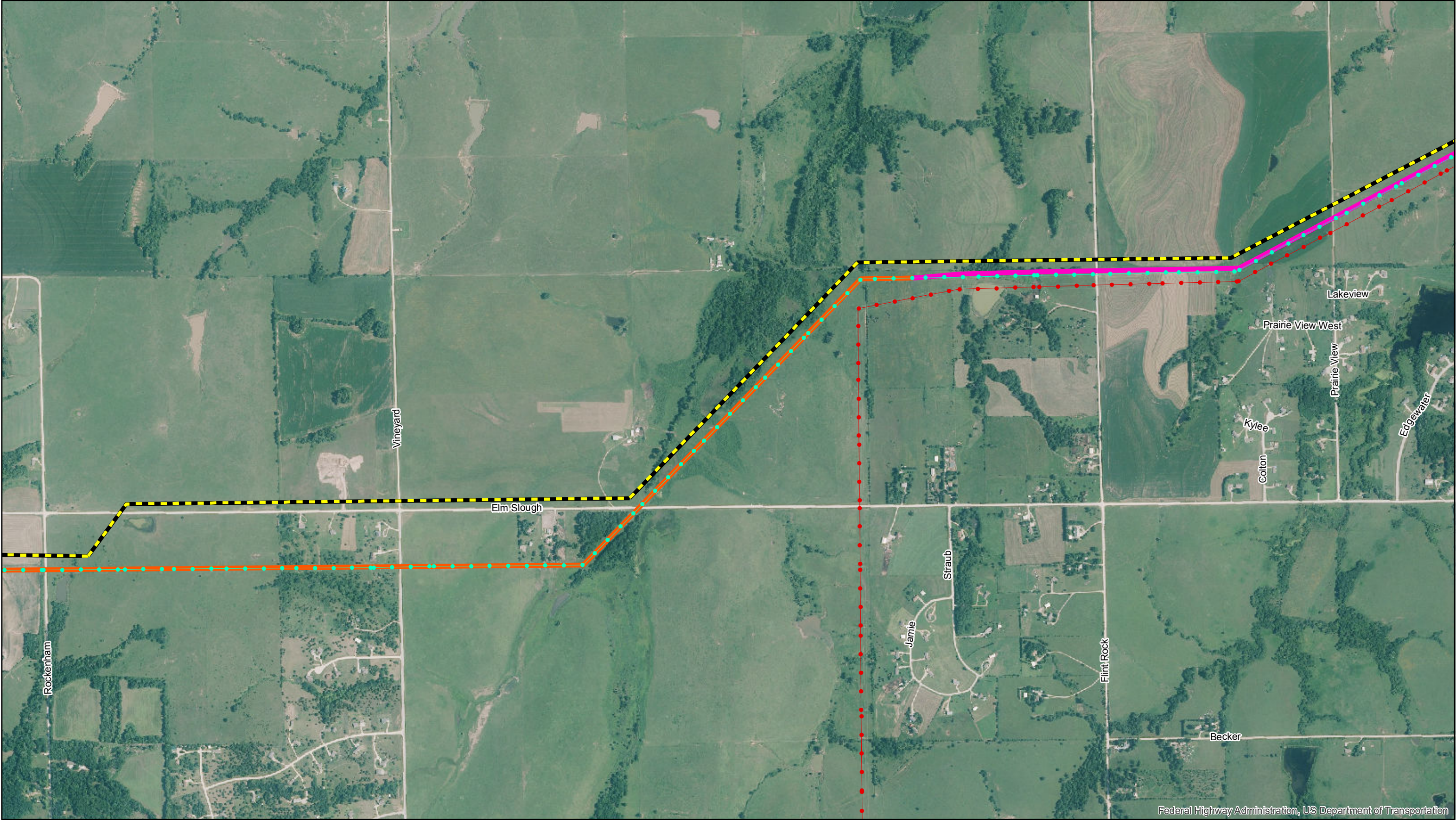
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Date: 2-16-15

Sheet No. 15



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 150 FT ON NEW ROW

OFFSET APPR 50FT FROM EXIST CL

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

01,0002,000 Feet

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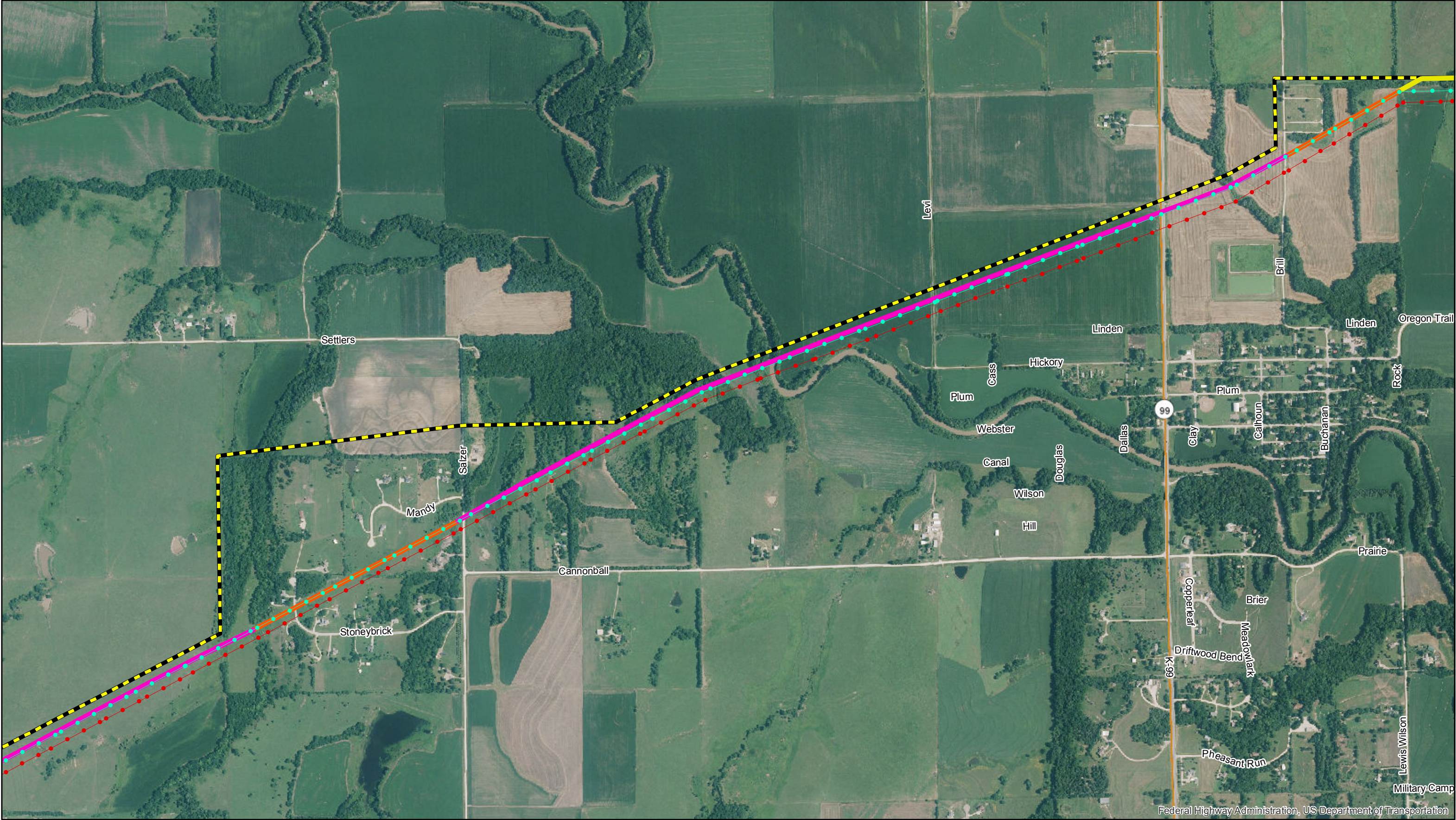
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Date: 2-16-15

Sheet No. 16



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

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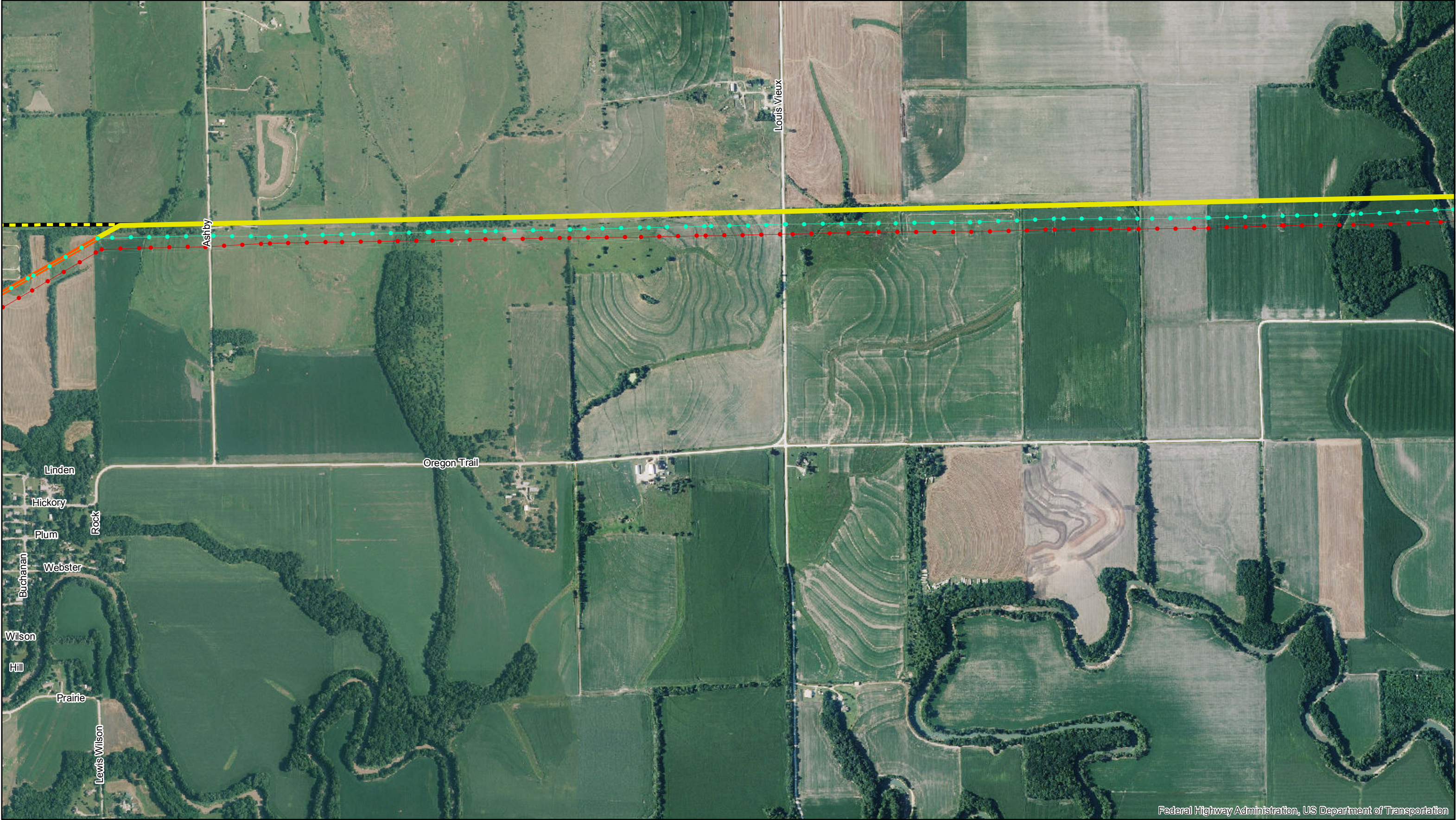
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Date: 2-16-15

Sheet No. 17



Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

01,0002,000 Feet

N

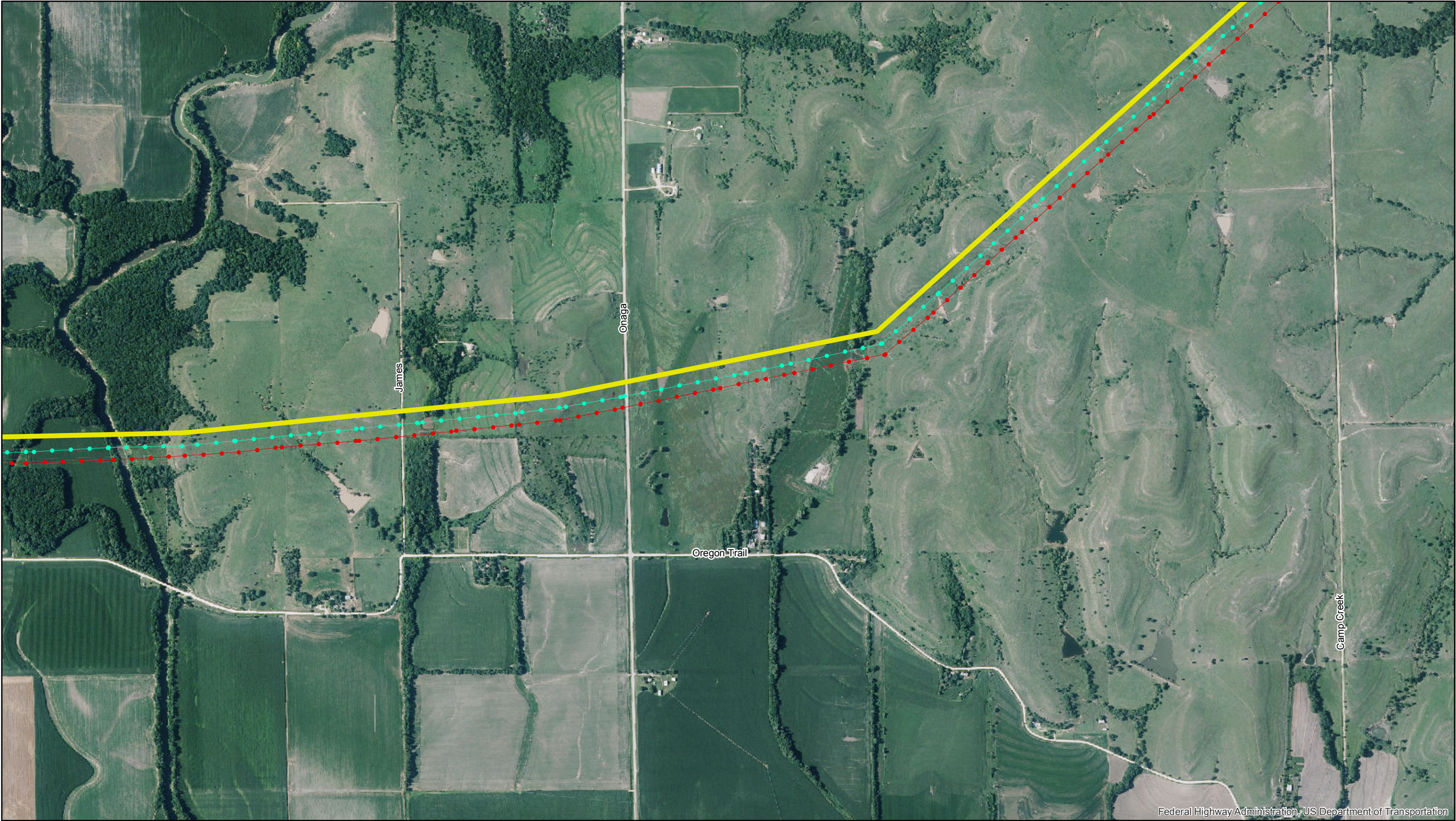
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Date: 2-16-15

Sheet No. 18



Westar Preferred Route Submitted for KCC Approval

- ON EXISTING CL
- OFFSET APPR 150 FT ON NEW ROW
- OFFSET APPR 50FT FROM EXIST CL
- NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

- Existing Transmission
- Existing 230kV Being Replaced

BMcD Study Preferred Route

- BMcD Study Preferred Route
- WESTAR/JEC PROPERTY

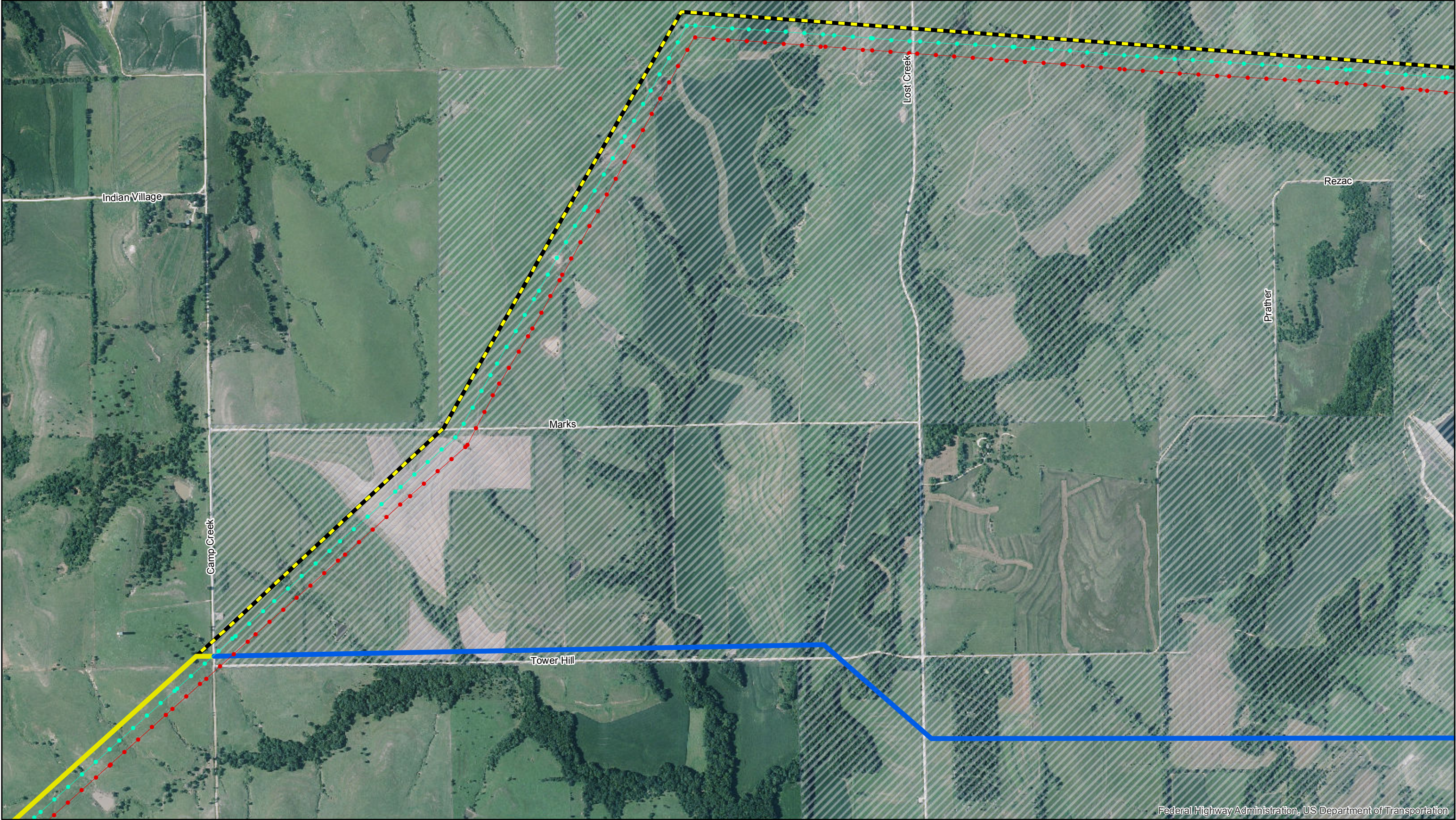
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Date: 2-16-15

Sheet No. 19

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Weststar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

01,0002,000 Feet

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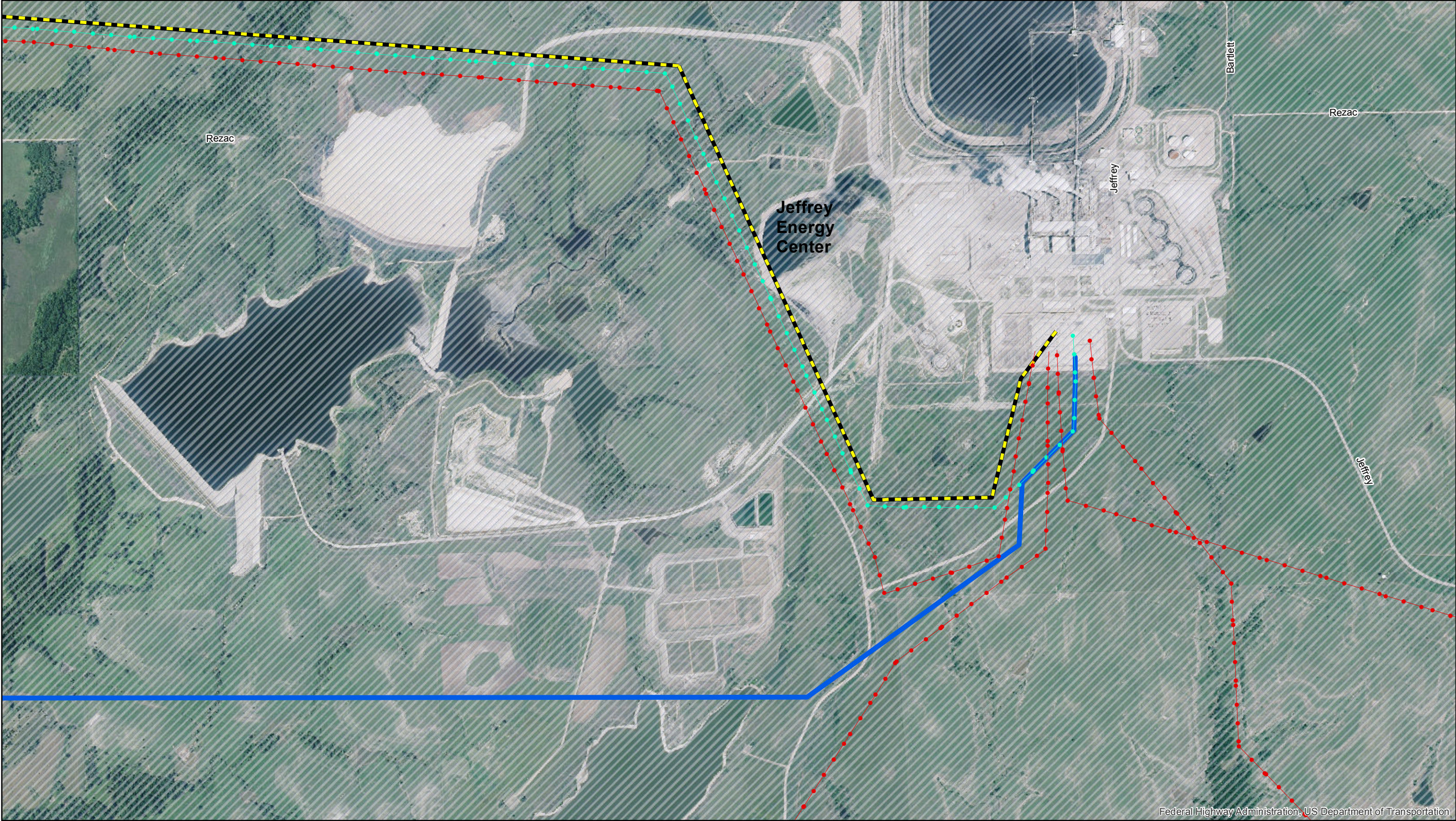
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Date: 2-16-15

Sheet No. 20

Exhibit KBH-1



Federal Highway Administration, US Department of Transportation

Westar Preferred Route Submitted for KCC Approval

ON EXISTING CL

OFFSET APPR 50FT FROM EXIST CL

OFFSET APPR 150 FT ON NEW ROW

NEW ROW ON WESTAR JEC PROP

Existing Transmission Lines

Existing Transmission

Existing 230kV Being Replaced

BMcD Study Preferred Route

BMcD Study Preferred Route

WESTAR/JEC PROPERTY

01,0002,000 Feet

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Date: 2-16-15

Sheet No. 21



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

**SPP
Notification to Construct**

February 19, 2014

Mr. Mo Awad
Westar Energy, Inc.
P.O. Box 889
Topeka, KS 66601

RE: Notification to Construct Approved Reliability Network Upgrades

Dear Mr. Awad,

Pursuant to Section 3.3 of the Southwest Power Pool, Inc. ("SPP") Membership Agreement and Attachment O, Section VI, of the SPP Open Access Transmission Tariff ("OATT"), SPP provides this Notification to Construct ("NTC") directing Westar Energy, Inc. ("WR"), as the Designated Transmission Owner ("DTO"), to construct the Network Upgrade(s). This NTC is conditioned upon WR not ordering materials or beginning construction until:

- (1) the DTO submits a refined NTC-C Project Estimate ("CPE") to SPP that has a variance bandwidth of -20% to +20% that does not exceed the Study Estimate variance bandwidth of -30% to +30% as provided for in SPP's Business Practices; or
- (2) the SPP Board of Directors considers SPP's re-evaluation of a project that has a refined CPE from the DTO that exceeds the Study Estimate variance bandwidth of -30% to +30% as provided for in SPP's Business Practices.

On January 28, 2014, the SPP Board of Directors approved the Network Upgrade(s) listed below to be constructed as part of the 2014 Integrated Transmission Planning ("ITP") Near-Term Assessment.

New Network Upgrades

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$53,832,758

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$53,832,758

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Commitment to Construct

Please provide to SPP a written commitment to construct the Network Upgrade(s) within 90 days of the date of this NTC, pursuant to Attachment O, Section VI.6 of the SPP OATT, in addition to providing a construction schedule. Failure to provide a sufficient written commitment to construct as required by Attachment O could result in the Network Upgrade(s) being assigned to another entity.

CPE

Please provide SPP a CPE by August 31, 2014, as described in SPP's Business Practice No. 7060 regarding Notification to Construct with Conditions. WR shall advise SPP of any inability to provide the CPE by August 31, 2014, as soon as the inability becomes apparent.

Removal of Conditions

Upon notice by SPP of removal of the conditions contained in this NTC, SPP will issue the DTO a new NTC and the following will be applicable:

Mitigation Plan

The Need Date represents the timing required for the Network Upgrade(s) to address the identified need. Your prompt attention is required for formulation and approval of any necessary mitigation plans for the Network Upgrade(s) included in the Network Upgrade(s) if the Need Date is not feasible. Additionally, if it is anticipated that the completion of any Network Upgrade will be delayed past the Need Date, SPP requires a mitigation plan be filed within 60 days of the determination of expected delays.

Notification of Commercial Operation

Please submit a notification of commercial operation for each listed Network Upgrade to SPP as soon as the Network Upgrade is complete and in-service. Please provide SPP with the actual costs of these Network Upgrades as soon as possible after completion of construction. This will facilitate the timely billing by SPP based on actual costs.

Notification of Progress

On an ongoing basis, please keep SPP advised of any inability on WR's part to complete the approved Network Upgrade(s). For project tracking, SPP requires WR to submit status updates of the Network Upgrade(s) quarterly in conjunction with the SPP Board of Directors meetings. However, WR shall also advise SPP of any inability to comply with the Project Schedule as soon as the inability becomes apparent.

All terms and conditions of the SPP OATT and the SPP Membership Agreement shall apply to



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200244

this Project, and nothing in this NTC shall vary such terms and conditions.

Don't hesitate to contact me if you have questions or comments regarding these instructions.
Thank you for the important role that you play in maintaining the reliability of our electric grid.

Sincerely,

A handwritten signature in black ink that reads 'Lanny Nickell'.

Lanny Nickell
Vice President, Engineering
Phone: (501) 614-3232 • Fax: (501) 482-2022 • lnickell@spp.org

cc: Carl Monroe - SPP
Katherine Prewitt - SPP
John Olsen - WR
Tom Stuchlik - WR
Dave Benak - WR



Mo Awad
Manager, Transmission Planning
Email: Mo.Awad@WestarEnergy.com
Office: 785-575-1674

August 28, 2014

Mr. Lanny Nickell
Vice President, Engineering
Southwest Power Pool
201 Worthen Drive
Little Rock, AR 72223-4936

Ref: SPP-NTC-200244

Dear Mr. Nickell,

This letter is in response to the SPP Notification to Construct letter (SPP-NTC-200244) issued on February 19, 2014.

Per this letter, Westar Energy is providing Conditional Project Estimate (CPE) for those projects identified in (SPP-NTC-200244) by the required date of August 31, 2014 as described in Business Practice No. 7060 regarding Notification to Construct with Conditions. Westar is committed to both upgrades to be placed in-service by the SPP need date. Therefore, no mitigation is required. In summary, the cost estimate for PID#30390 increased within the allowed bandwidth and the cost estimate for PID#30560 remains unchanged. All cost estimates are already submitted in TAGIT.

Westar understands that the CPE for each project is within the requirements for removing the conditions on the NTC as described in Business Practice 7060, and should be deemed acceptable. Westar will await your concurrence and issuance of a NTC without conditions before proceeding with further development.

New Network Upgrades

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$53,832,758

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1 Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR

conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$53,832,758

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 11/21/2013

Westar is committed to PID#30390 and all its associated UUIDs by the SPP need date. The Conditional Project Estimate has been submitted in TAGIT.

Westar Projected In-Service Date: 6/1/2017

Westar Conditional Project Estimate: \$58,317,000

Date of Conditional Project Estimate: 8/28/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963
Cost Allocation of the Network Upgrade: Base Plan
Estimated Cost Source: WR
Date of Estimated Cost: 11/21/2013

Westar is committed to PID#30560 and all its associated UIDs by the SPP need date. The cost estimate remains unchanged and submitted in TAGIT.

Westar Projected In-Service Date: 6/1/2019
Westar Conditional Project Estimate: \$51,513,963
Date of Conditional Project Estimate: 8/28/2014

Westar understands that the total updated estimate for each project is within the requirements for removing the conditions on the NTC as described in Business Practice 7060, and should be deemed acceptable. We will await your concurrence and issuance of a NTC without conditions before proceeding with further development.

If you have any questions, please do not hesitate in contacting me.

Sincerely,



Mo Awad
Westar Energy
Manager, Transmission Planning
785-575-1674
Mo.Awad@westarenergy.com

cc: Carl Monroe (Southwest Power Pool)
Antoine Lucas (Southwest Power Pool)
Cary Frizzell (Southwest Power Pool)
John Olsen (Westar Energy)
Tom Stuchlik (Westar Energy)
David Benak (Westar Energy)



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

1 Notification to Construct

September 2, 2014

Mr. Mo Awad
Westar Energy, Inc.
P.O. Box 889
Topeka, KS 66601

RE: Notification to Construct Approved Reliability Network Upgrades

Dear Mr. Awad,

Pursuant to Section 3.3 of the Southwest Power Pool, Inc. ("SPP") Membership Agreement and Attachment O, Section VI, of the SPP Open Access Transmission Tariff ("OATT"), SPP provides this Notification to Construct ("NTC") directing Westar Energy, Inc. ("WR"), as the Designated Transmission Owner, to construct the Network Upgrade(s).

On January 28, 2014, the SPP Board of Directors approved the Network Upgrades listed below to be constructed as part of the 2014 Integrated Transmission Planning Near-Term Assessment. On February 19, 2014, SPP issued WR the Notification to Construct with Conditions ("NTC-C") No. 200244.

On August 28, 2014, SPP received WR's NTC-C Project Estimates ("CPE") for the Network Upgrades specified in the NTC-C No. 200244. SPP approved the CPEs as meeting the requirements of Condition No. 1 of the NTC-C, and notified WR that SPP would issue an NTC for the Network Upgrades.

Upgrades with Modifications

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$58,317,000

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1
Rebuild



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$58,317,000

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 8/28/2014

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 5/6/2014

Commitment to Construct

Please provide to SPP a written commitment to construct the Network Upgrade(s) within 90 days of the date of this NTC, pursuant to Attachment O, Section VI.6 of the SPP OATT. Failure to provide a sufficient written commitment to construct as required by Attachment O could result in the Network Upgrade(s) being assigned to another entity.

Mitigation Plan

The Need Date represents the timing required for the Network Upgrade(s) to address the identified need. Your prompt attention is required for formulation and approval of any necessary mitigation plans for the Network Upgrade(s) included in the Network Upgrade(s) if the Need Date is not feasible. Additionally, if it is anticipated that the completion of any Network Upgrade will be delayed past the Need Date, SPP requires a mitigation plan be filed within 60 days of the determination of expected delays.

Notification of Commercial Operation

Please submit a notification of commercial operation for each listed Network Upgrade to SPP as soon as the Network Upgrade is complete and in-service. Please provide SPP with the actual costs of these Network Upgrades as soon as possible after completion of construction. This will facilitate the timely billing by SPP based on actual costs.

Notification of Progress

On an ongoing basis, please keep SPP advised of any inability on WR's part to complete the approved Network Upgrade(s). For project tracking, SPP requires WR to submit status updates of the Network Upgrade(s) quarterly in conjunction with the SPP Board of Directors meetings. However, WR shall also advise SPP of any inability to comply with the Project Schedule as soon as the inability becomes apparent.

All terms and conditions of the SPP OATT and the SPP Membership Agreement shall apply to this Project, and nothing in this NTC shall vary such terms and conditions.

Don't hesitate to contact me if you have questions or comments regarding these instructions.



HELPING OUR MEMBERS WORK TOGETHER
TO KEEP THE LIGHTS ON... TODAY AND IN THE FUTURE

SPP-NTC-200296

Thank you for the important role that you play in maintaining the reliability of our electric grid.

Sincerely,

A handwritten signature in black ink that reads 'Lanny Nickell'.

Lanny Nickell

Vice President, Engineering

Phone: (501) 614-3232 • Fax: (501) 482-2022 • lnickell@spp.org

cc: Carl Monroe - SPP
Antoine Lucas - SPP
John Olsen - WR
Tom Stuchlik - WR
Dave Benak - WR



Mo Awad
Manager, Transmission Planning
Email: Mo.Awad@WestarEnergy.com
Office: 785-575-1674

September 3, 2014

Mr. Lanny Nickell
Vice President, Engineering
Southwest Power Pool
201 Worthen Drive
Little Rock, AR 72223-4936

Ref: SPP-NTC-200296

Dear Mr. Nickell,

This letter is in response to the SPP Notification to Construct letter (SPP-NTC-200296) issued on September 2, 2014.

On February 19, 2014, SPP issued Westar the Notification to Construct with Conditions ("NTC-C") No. 200244. On August 28, 2014, Westar provided to SPP NTC-C Project Estimates ("CPE") for the Network Upgrades specified in the NTC-C No. 200244. SPP approved the CPEs as meeting the requirements of Condition No. 1 of the NTC-C. On September 2, Westar received SPP NTC#200296 with no conditions for the upgrades identified in NTC#200244.

Per this letter, Westar Energy is committing to all projects as listed in SPP-NTC-200296. All cost estimates were provided to SPP in the NTC CPE letter dated August 28, 2014 and are submitted in TAGIT.

Upgrades with Modifications

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30390

Project Name: Line - East Manhattan - Jeffrey Energy Center 230 kV Ckt 1

Need Date for Project: 6/1/2017

Estimated Cost for Project: \$58,317,000

Network Upgrade ID: 10600

Network Upgrade Name: East Manhattan - Jeffrey Energy Center 230 kV Ckt 1 Rebuild

Network Upgrade Description: Rebuild 27-mile 230 kV line from East Manhattan to Jeffrey Energy Center to 345 kV standards but operate as 230 kV using bundled 1590 ACSR conductor. Upgrade terminal equipment at East Manhattan and Jeffrey Energy Center to a minimum emergency rating of 2000 Amps.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Regional reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 797 MVA.

Network Upgrade Justification: To address the overload of the East Manhattan - Jeffrey Energy Center 230 kV line for the outage of Geary - Jeffrey Energy Center 345 kV Ckt 1.

Estimated Cost for Network Upgrade (current day dollars): \$58,317,000

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 8/28/2014

Westar is committed to the project above and all of its associated upgrades. The Westar projected in service date is 6/1/2017 which matches the SPP need date.

Previous NTC Number: 200244

Previous NTC Issue Date: 2/19/2014

Project ID: 30560

Project Name: Line - Sumner County - Viola 138 kV Ckt 1

Need Date for Project: 6/1/2019

Estimated Cost for Project: \$51,513,963

Network Upgrade ID: 50698

Network Upgrade Name: Sumner County - Viola 138 kV Ckt 1

Network Upgrade Description: Build new 28-mile 138 kV line from Viola to Sumner County.

Network Upgrade Owner: WR

MOPC Representative(s): John Olsen, Tom Stuchlik

TWG Representative: Mo Awad

Reason for Change: The CPE(s) for this project was determined to meet the requirements of Condition No. 1 of NTC-C No. 200244. Therefore, the conditions of the project are removed.

Categorization: Zonal Reliability

Network Upgrade Specification: All elements and conductor must have at least an emergency rating of 314 MVA.

Network Upgrade Justification: To address low voltages at Creswell, Farber, Oxford, Sumner, Sumner County No. 10 Belle Plain, TC-Rock and Timber Junction for the outage of El Paso - Farber 138 kV, Farber - Sumner County No. 10 Belle Plain 138 kV, and Kildare - Newkirk 138 kV.

Estimated Cost for Network Upgrade (current day dollars): \$51,513,963

Cost Allocation of the Network Upgrade: Base Plan

Estimated Cost Source: WR

Date of Estimated Cost: 5/6/2014

Westar is committed to the project above and all of its associated upgrades. The Westar projected in service date is 6/1/2019 which matches the SPP need date.

If you have any questions, please do not hesitate in contacting me.

Sincerely,



Mo Awad
Westar Energy
Manager, Transmission Planning
785-575-1674
Mo.Awad@westarenergy.com

cc: Carl Monroe (Southwest Power Pool)
Katherine Prewitt (Southwest Power Pool)
John Olsen (Westar Energy)
Tom Stuchlik (Westar Energy)
Dave Benak (Westar Energy)



November 12, 2014

Name
Address
City, ST ZIP

Dear Property Owner,

We are making an upgrade to the transmission system in your area and are considering new routes on or near your property. Please join us to learn more about this project.

In the early 1980s, Westar Energy built a large power line to carry electricity from Jeffrey Energy Center to Manhattan. In the past few years, the demand for power has increased and the line needs to be replaced. We are developing a plan to replace the entire 27 mile power line so we can keep electricity in your area reliable.

Enclosed, you'll see a map that shows the *potential* routes for the new power line in green. It may look a bit overwhelming; however, keep in mind these are our *potential* routes. We want you to help us determine which route to build. Please join us for an open house to discuss routes for the new power line.

- **Who is invited?** Landowners and residents along the potential routes are receiving this letter of invitation. Anyone is welcome to attend.
- **When and where is the open house?** 4 to 7 p.m. Dec. 3 and 4 at the Wamego Area Senior Citizens/Community Center, 501 Ash St. in Wamego. Come and go during that time at your convenience.

Your attendance is important to us. Here are a few reasons why:

- Help us determine the preferred route from those shown on the map.
- Complete a survey about how routes are evaluated.
- Learn about the logistics and benefits of the project.
- Learn how the project could affect your land.
- Share your concerns and questions

We look forward to meeting with you at the open house. If you have any questions prior to our open houses, please contact Johnny Onstead at (904) 571-9269 or jonstead@twinpeaksfieldservices.com.

Sincerely,

A handwritten signature in black ink that reads "Kelly B. Hamlin".

Exhibit KBH - 3, Sheet 2

MANHATTAN

ST. GEORGE

WAMEGO

E. Man Substation

US Hwy 24

UNION PACIFIC RAILROAD SYSTEM

Federal Highway Administration, US Department of Transportation

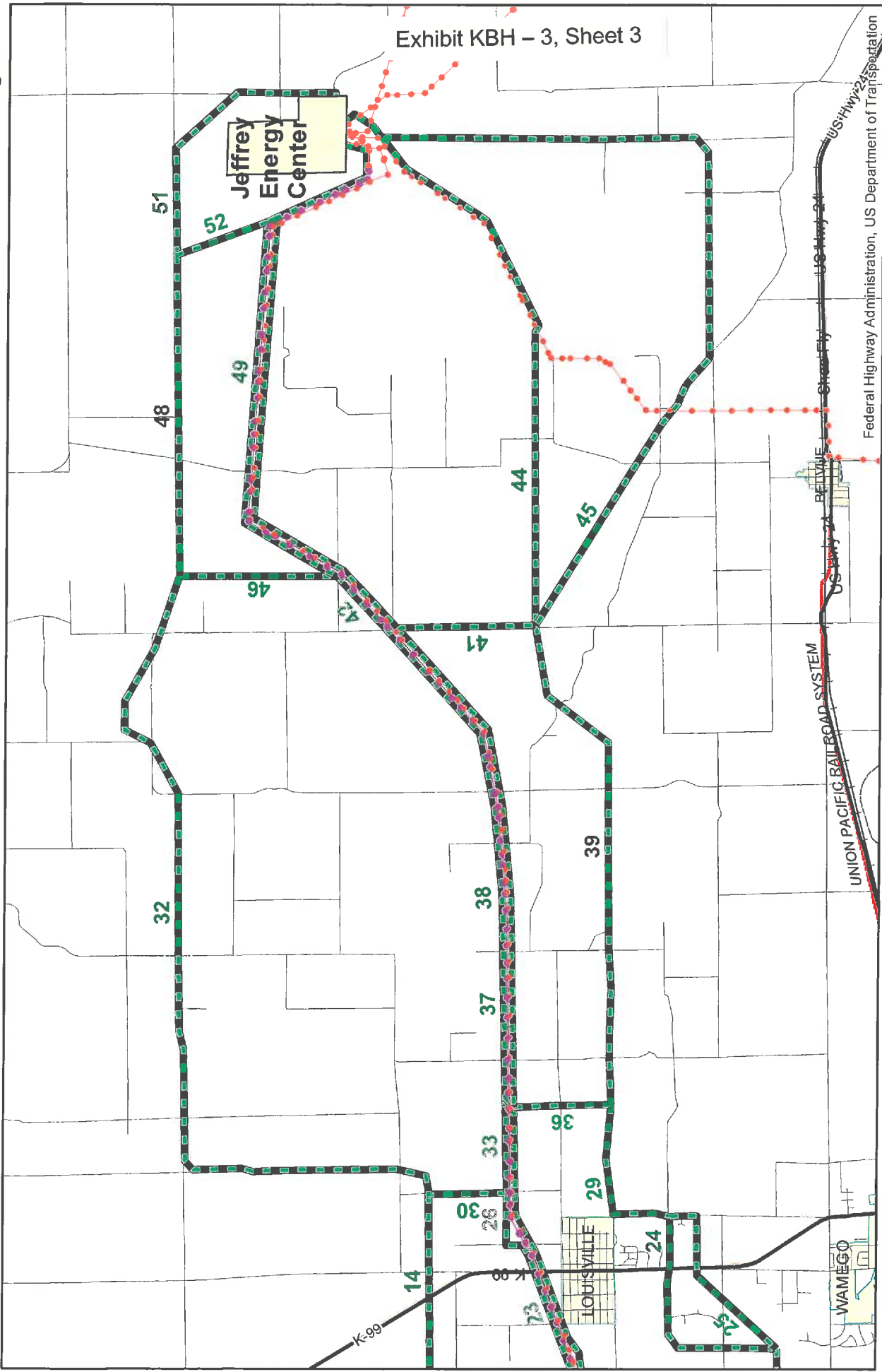
230kV Line Being Replaced

Other Existing Transmission Lines

 Potential Routes for New 230kV-345kV Line

(Continued on Other Side)

Jeffrey Energy Center to E. Manhattan 230kV Replacement Project



Existing Transmission Lines
 — 230kV Line Being Replaced
 — Other Existing Transmission Lines

Potential New Routes Under Consideration

— Potential Routes for New 230kV-345kV Line

Date: 12-04-14

(Continued on Other Side)



JEC TO E. MANHATTAN ROUTING PROCESS

Which route is the best?

A QUICK OVERVIEW ON HOW LANDOWNERS AND WESTAR WORK TOGETHER TO DETERMINE THE BEST ROUTE FOR A PROJECT.

Routing a transmission line is a lengthy process, and for those along the selected route, the beginning of a relationship that will last for decades. We realize this can be a challenging process, and we want to be a good neighbor. To that end, we seek feedback from local property owners early in the process to determine the final route for the transmission line.

HERE IS A SUMMARY OF THAT PROCESS:

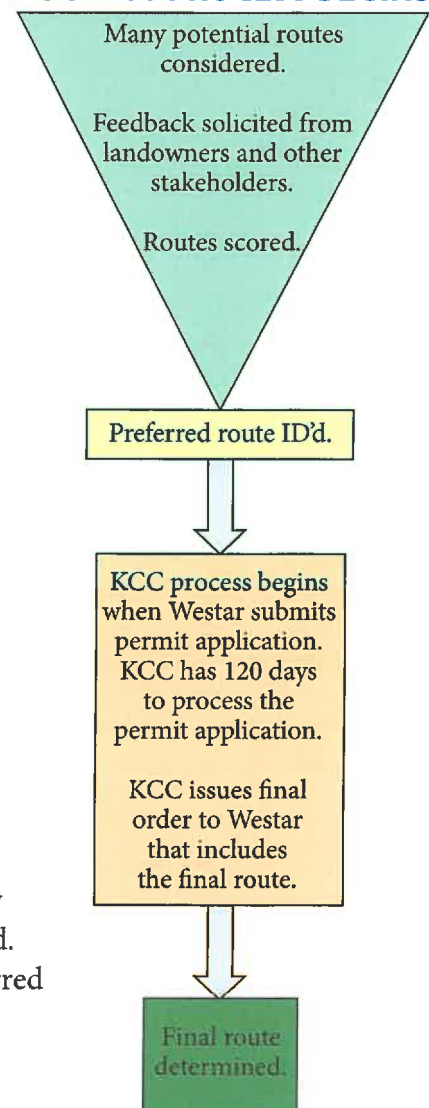
Using aerial photos, public records and visits to the area, we identify potential routes the transmission line could follow.

Westar identifies property owners along the potential routes and invites them to open houses about the project. These open houses give property owners a chance to learn about the project and Westar an opportunity to learn more about how the routes may impact property owners. We ask property owners for feedback in person and through questionnaires. Often property owner feedback will result in some adjustment to the routes. This information is used to apply scores to each of the potential routes. The route with the highest score is called the preferred route.

At this stage the regulatory process begins. Westar submits a filing with the Kansas Corporation Commission identifying the preferred route in the siting study. During the KCC process, landowners along the route will be notified and given information about how they can participate in the KCC's decision making process. Public comments may be submitted in writing and at least one public hearing will be conducted. The KCC staff and engineers also evaluate the siting study and the preferred route. They will make a recommendation to the KCC Commissioners who will approve, request modifications or deny Westar's application.

Once a route is selected, we notify property owners and begin working with them to obtain easements for the transmission line.

ROUTING PROCESS BEGINS



ROUTING PROCESS ENDS



JEC TO E. MANHATTAN TRANSMISSION LINE

Building better reliability.

THE JEFFREY ENERGY CENTER TO EAST MANHATTAN 230kV/345kV TRANSMISSION PROJECT WILL PROVIDE THE RELIABLE ENERGY NEEDED FOR A GROWING KANSAS.

The lack of high-voltage transmission lines in north-central Kansas causes inefficiencies that can impact the reliability of electrical service. The Jeffrey Energy Center to East Manhattan transmission upgrade will help ease congestion across the network and improve the delivery of power to customers. It will benefit residents and businesses in central Kansas and beyond by strengthening the regional high-voltage grid, bringing improved reliability and helping to provide access to a wider range of cost-effective generation sources. It will provide tax revenue, construction jobs and local expenditures. It also will expand capabilities for future investment in area industry.



THE PROJECT

The Jeffrey Energy Center to East Manhattan project will replace an existing transmission line that was built in the early 1980s. The Southwest Power Pool (SPP) has directed Westar Energy, Inc. (Westar) to replace the transmission line with a new transmission line that will carry more electricity. The new transmission line will be designed and constructed using specifications that will allow the line to operate at a higher voltage (345kV) to carry more electricity if needed in the future. Westar will continue to operate the transmission line at the existing voltage (230kV) until the SPP determines a need to convert it to the higher voltage. No significant upgrades are necessary at the substations located on each end of the transmission line with this project. The new transmission line will continue to move electrical power between the Jeffrey Energy Center substation and the East Manhattan substation.

THE ROUTING PROCESS

A routing study identifies many potential routes intended to minimize adverse impacts to residents, their land and the natural environment while providing a technically viable and cost-effective transmission line. As part of the review/input process, Westar will meet with state and local officials, landowners, residents and environmental organizations to fully discuss the project, review proposed routes and answer any questions. The routes will be presented to potentially affected landowners during community open house events in December 2014. Landowners along the proposed routes will have the opportunity to review the routes and provide input to Westar. Westar will consider input from all stakeholders in developing a final preferred route to submit to the Kansas Corporation Commission (KCC). The KCC has the final authority to determine where the line will be built.

WORKING WITH LANDOWNERS

Westar is committed to open and frequent communications with landowners. When the final line route is determined by the KCC, we will contact landowners who have property on the final line route and begin discussions with them about purchasing the easements necessary to build the line. This will allow property owners to continue most uses of their property. We provide one-time payments, typically negotiated up-front, based on determination of the market property values in the local area. We will work respectfully with landowners throughout the siting, design, and construction process to minimize impacts to their properties. It is our goal to reach mutually beneficial negotiated agreements with all landowners.

Frequently asked questions.

What will the line look like?

The types of structures to be used on this project have not been determined. First the route has to be identified because it will influence which structure types and height will be used. The structures will likely be fabricated from steel. The structure height will vary based on terrain, clearance to the ground, and structure spacing; but are likely to range between 120 and 160 feet. The span lengths between structures will also vary but will likely be between 800 to 1,500 feet, with an average span around 900 feet.

Who will build the lines and manage the construction?

Westar will provide project management services and coordination for the engineering and construction of the project.

Who approved this project?

The project has been reviewed and approved by the Southwest Power Pool (SPP), the organization designated by the Federal Energy Regulatory Commission (FERC) to oversee the high-voltage grid reliability in the multi-state region that includes Kansas. Westar will construct, own and operate the new transmission line.

How much will this project cost?

Although the cost will be reevaluated when the preferred route is determined, the initial estimated investment for the project is about \$58 million.

Who will pay for the transmission line and facilities?

Because the line will benefit the entire region in terms of improved reliability and increased efficiency, the cost will be recovered from all customers in the Southwest Power Pool region, which includes Kansas, Oklahoma and parts of Nebraska, Texas, New Mexico, Arkansas and Missouri. The SPP oversees the tariff that is the basis for transmission charges to customers.

Why are you starting this process now if the line won't be finished until 2017?

A project of this size requires many years to permit, design, procure materials and construct. Almost all the major components will be custom built and require long lead times.

What environmental impacts will be considered with the siting of this project?

The environment is an important factor when planning and designing transmission line projects. We work closely with appropriate organizations, including the Kansas Department of Wildlife, Parks and Tourism, the U.S. Fish and Wildlife Service and the Nature Conservancy from the beginning of a project to make sure any direct environmental impact is appropriately identified and addressed. We believe this kind of collaboration leads to developing a transmission line route that aligns with federal and state energy and environmental policy objectives. We adhere to all state and federal regulations to protect native plants, threatened or endangered species, wetlands, and water and air quality.

Key dates and timeline.

Fall 2014

Preliminary routing & community outreach

December 3-4, 2014

Public Open House events in Wamego

Q1 2015

Route application filed with the Kansas Corporation Commission

Q2 2015

KCC route approval anticipated

2015-2016

Right-of-way acquisition

2015-2016

Engineering design

2016-2017

Construction

2017

Project in service

Westar Energy, Inc.

Westar is the largest electric energy provider in Kansas, dedicated to operating the best electric utility in the Midwest and providing quality service at below average prices. Headquartered in Topeka, Westar provides generation, transmission, and distribution to more than 687,000 customers in much of east and east-central Kansas. (westarenergy.com)

FOR MORE INFORMATION ON
THIS PROJECT, CONTACT:
JOHN ONSTEAD at
(904) 571-9269

Westar Energy Jeffrey Energy Center to E. Manhattan Project STAKEHOLDER QUESTIONNAIRE

This questionnaire is designed to help you identify issues related to the proposed routes for the Jeffrey Energy Center to E. Manhattan Transmission Line Project. Your answers will assist the study team in understanding public interests and concerns, and will allow the team to incorporate this information in the route selection process. Please complete this questionnaire **after** you have reviewed the information presented in the informational meeting today. Thank you for your input.

PROJECT NEED

1. Do you believe the need for this transmission line has been explained adequately?
 _____Yes _____No _____Uncertain

If "No" or "uncertain," what additional information would be helpful to you?

LINE ROUTING CONSIDERATIONS

2. The routing of a transmission line involves many considerations. Please circle the number corresponding to the level of importance of that factor to you.

Factor	Rating				
	Not Important	Somewhat Important	Most Important
a) Maximize distance from residences	1	2	3	4	5
b) Maximize distance from businesses	1	2	3	4	5
c) Maximize distance from public facilities (e.g., parks, schools, churches, cemeteries)	1	2	3	4	5
d) Maximize length along existing transmission lines	1	2	3	4	5
e) Maximize length along highways or other roads	1	2	3	4	5
f) Maintain reliable electric service	1	2	3	4	5
g) Minimize length through wetlands and number of stream / river crossings	1	2	3	4	5
h) Minimize length across tilled agricultural land	1	2	3	4	5
i) Maximize distance from center pivot irrigation systems	1	2	3	4	5
j) Minimize loss of trees	1	2	3	4	5
k) Minimize visibility of the line	1	2	3	4	5
l) Minimize total length of line (reducing the total cost)	1	2	3	4	5
m) Minimize length through grassland or pasture	1	2	3	4	5
n) Minimize impacts to archaeological and historic sites	1	2	3	4	5
o) Minimize distance through sensitive habitat areas	1	2	3	4	5

3. If you would like to comment further on any of the above factors, or identify any other factors or issues that you feel should be considered, please use the space below or a separate page to describe your comments.



4. If you have a concern with, or a suggestion for, a particular transmission line route(s) shown on the display of potential routes, please indicate the route color number and describe your concern or suggestion.

Segment No.Concern

_____	_____
_____	_____
_____	_____

ADDITIONAL INFORMATION

5. Which of the following applies to your situation?

_____ a. Potential line route is near my home.

_____ b. Potential line route is near my farm or business.

_____ c. Not affected by potential route.

_____ d. Other, please specify _____

6. Do you believe the public open house format and the information provided was helpful for your understanding of the project?

OPEN HOUSE FORMAT:

_____ helpful

_____ not helpful

INFORMATION PROVIDED:

_____ helpful

_____ not helpful

WESTAR STAFF HELPFUL:

_____ helpful

_____ not helpful

How can we improve this format to better inform and respond to you?

7. If you would like to know the results of this routing study, please enter your name and address below. (Names and addresses are considered confidential.)

Name: _____ Phone: _____

Address: _____

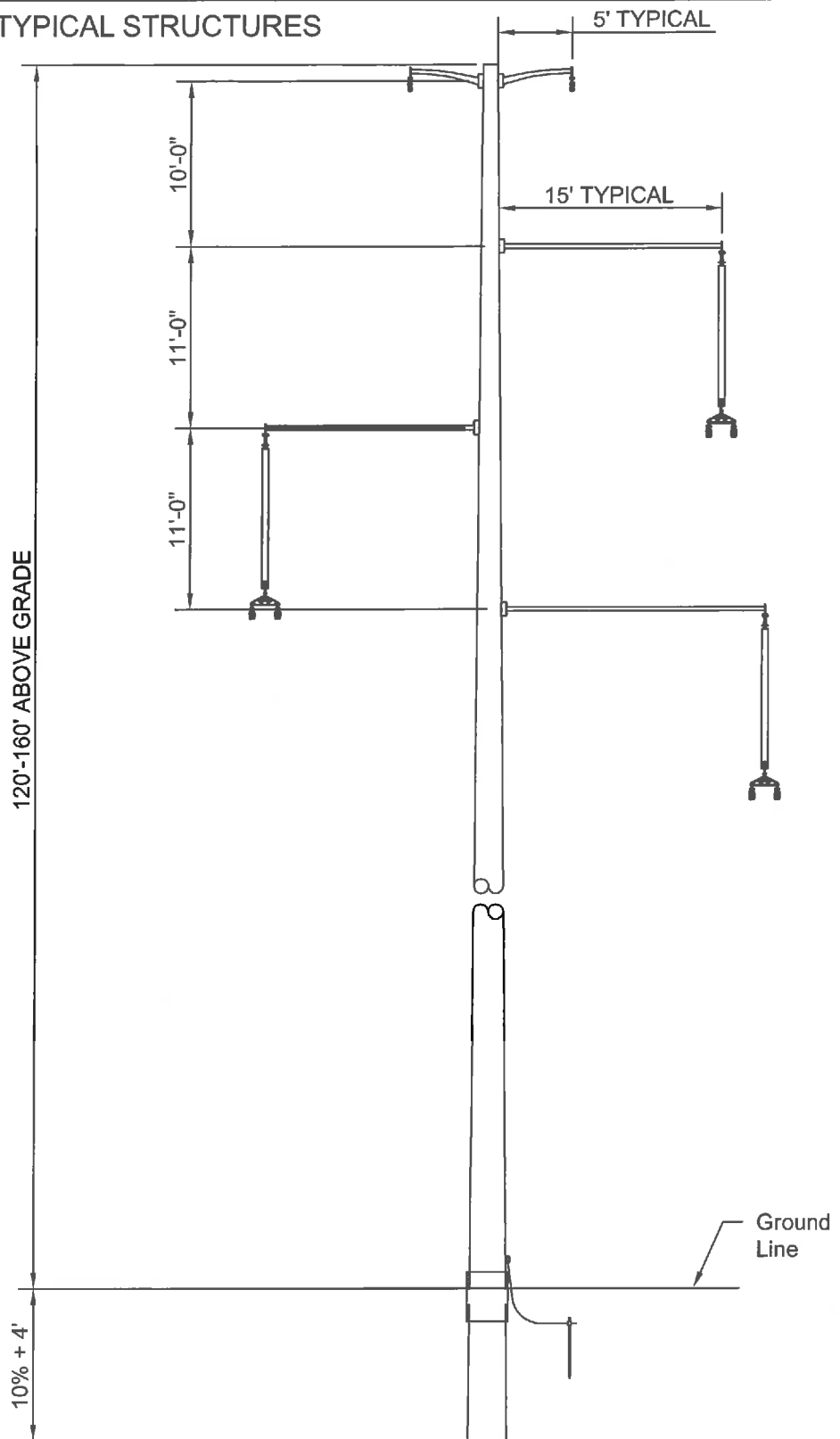
ADDITIONAL COMMENTS OR QUESTIONS

We encourage you to fill out and submit your questionnaire at the meeting. If you take the questionnaire with you, please mail completed questionnaires before December 18, 2014 to:

Westar Energy
JEC to E. Manhattan Transmission Line
Attn: Matt Armfield
PO Box 889
Topeka, KS 66601
Email: Matt.Armfield@westarenergy.com



FOR JEC-E. MAN; TYPICAL STRUCTURES



Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

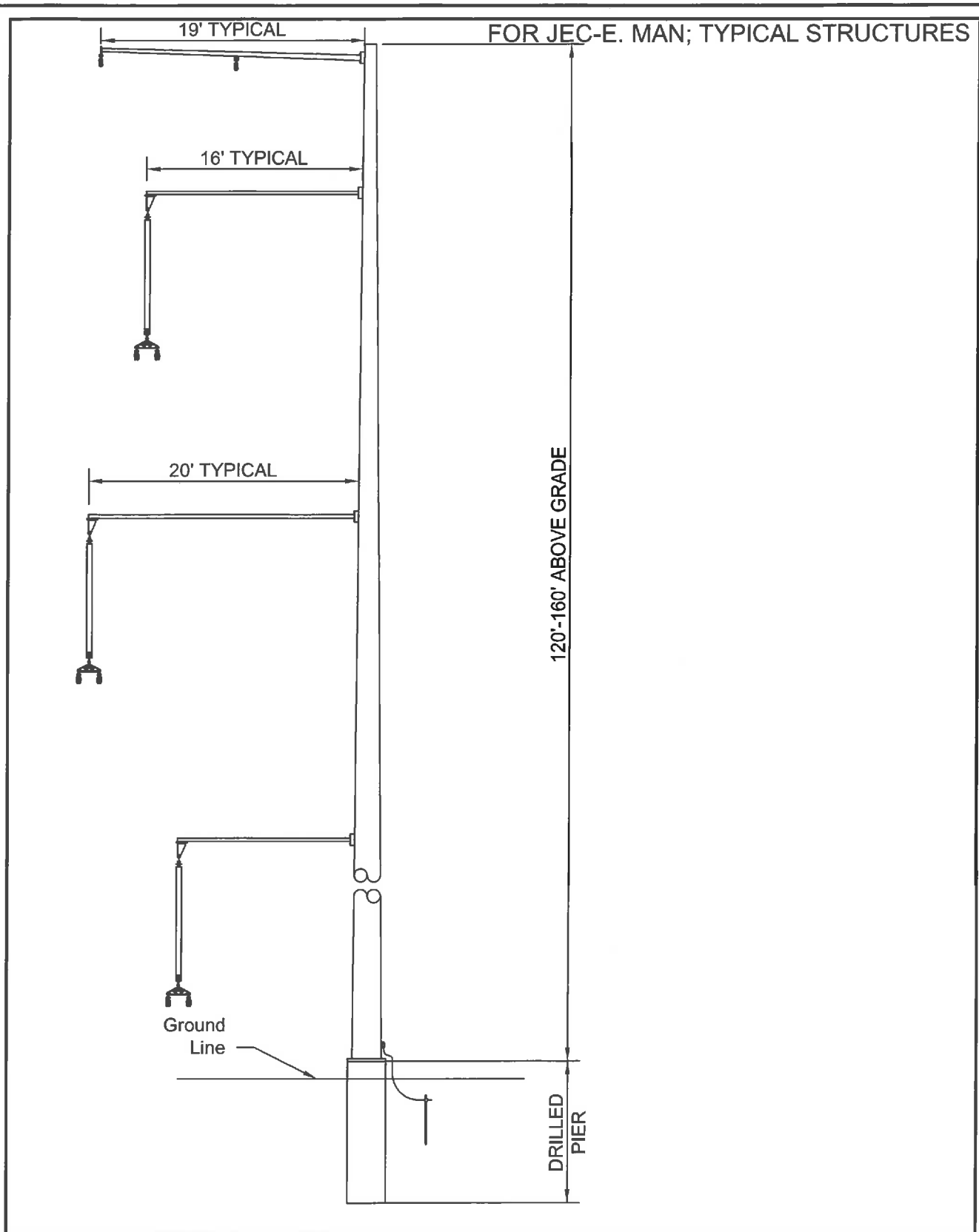
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 1 OF 5

Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

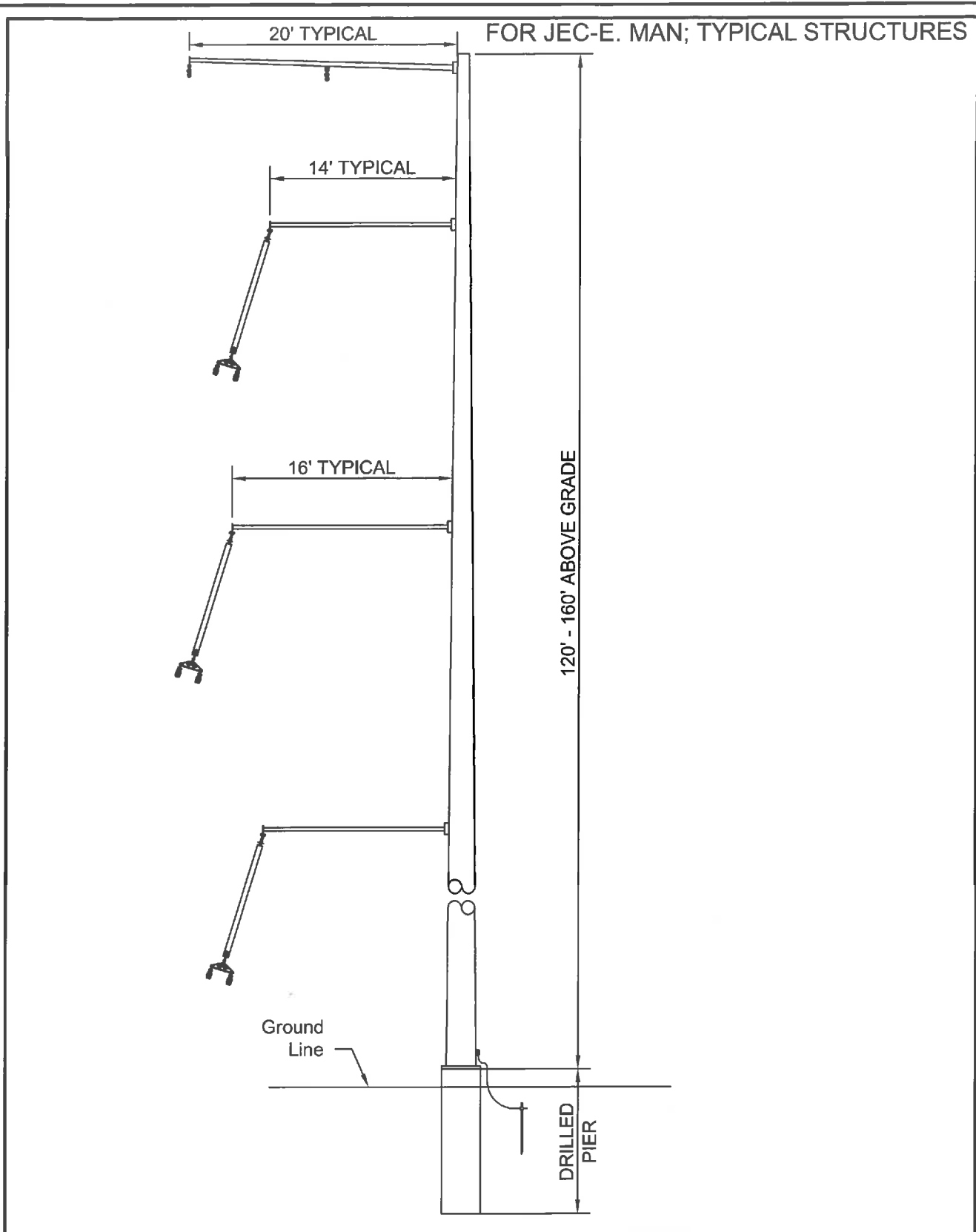
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 2 OF 5

Dwn by DCS Date 02/18/15 Appd. By _____ Used on WR# _____ Date _____



Title:

JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

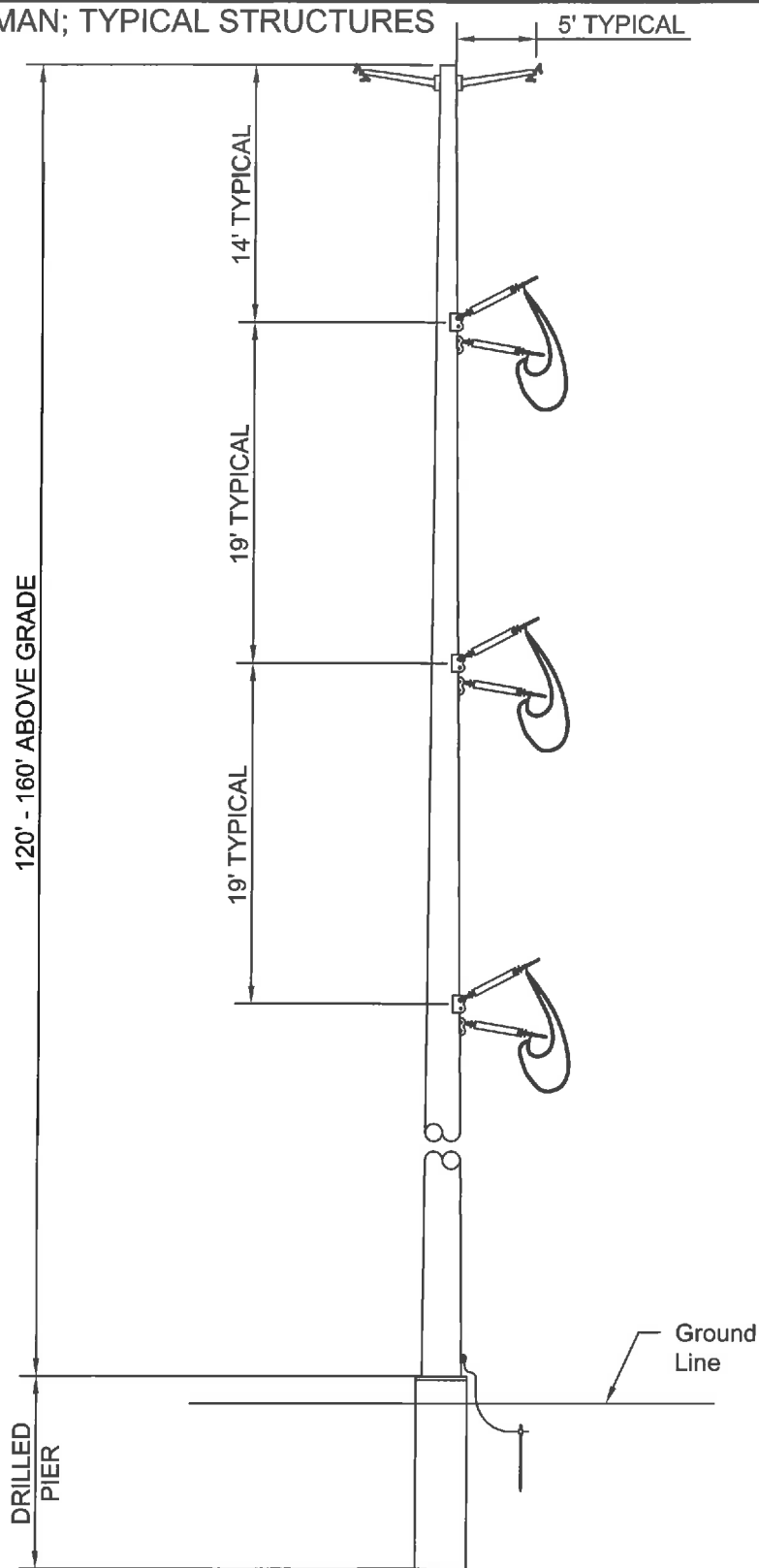
Dwg. No.

EXHIBIT KBH-4

SHEET 3 OF 5

Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____

FOR JEC-E. MAN; TYPICAL STRUCTURES



Title:

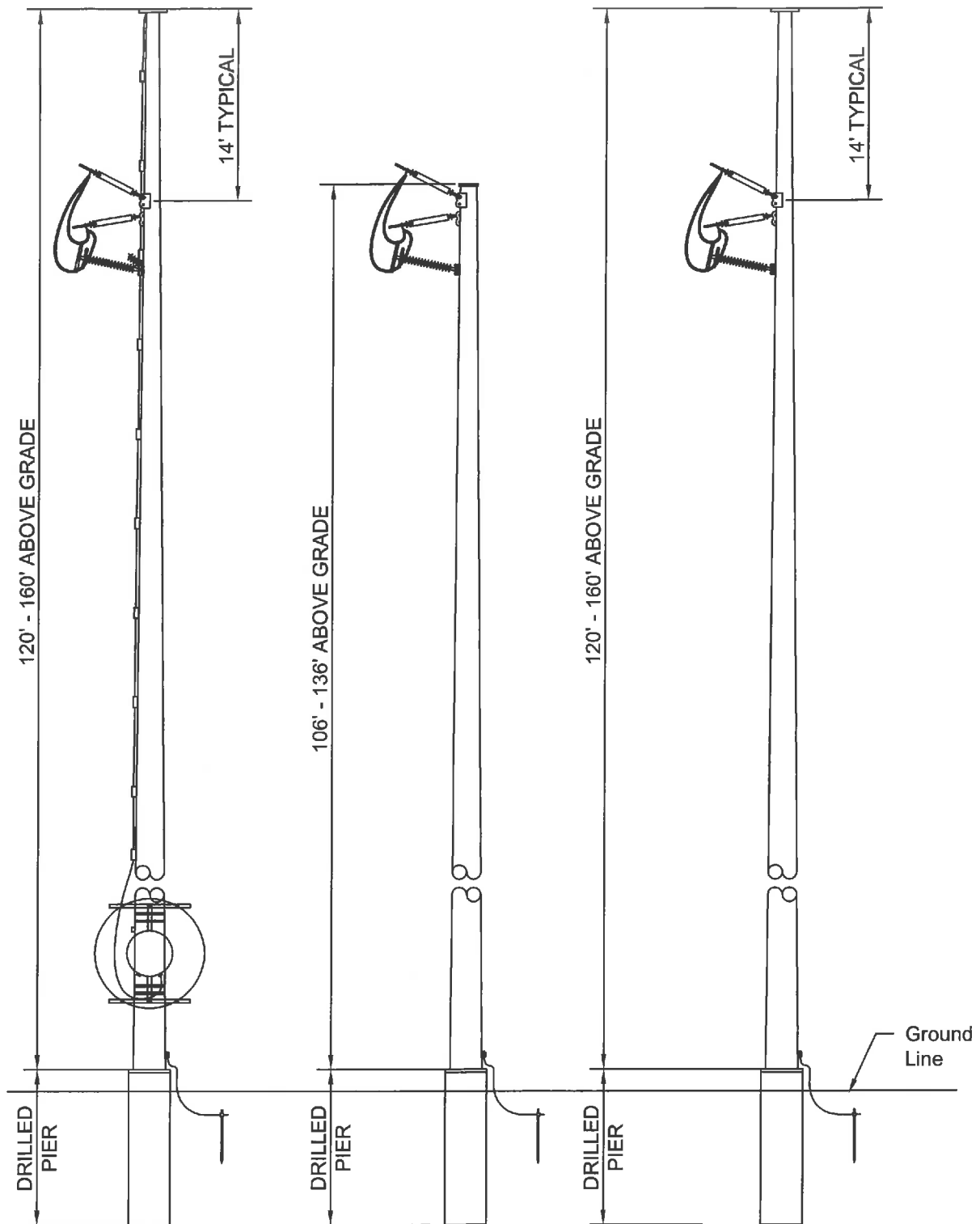
JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 4 OF 5

FOR JEC-E. MAN; TYPICAL STRUCTURES



Dwn by DCS Date 02/18/15 Appd. By _____ Date _____ Used on WR# _____



Title:

JEFFREY TO EAST MANHATTAN
TYPICAL STRUCTURES

Dwg. No.

EXHIBIT KBH-4

SHEET 5 OF 5

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

**DIRECT TESTIMONY
OF
JULIE A. LUX
WESTAR ENERGY**

DOCKET NO. 15-WSEE-365-MIS

I. INTRODUCTION

1
2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Julie A. Lux, 818 South Kansas Avenue, Topeka, Kansas 66612.

4 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

5 A. I am employed by Westar Energy, Inc. (Westar) as Director,
6 Regulatory Compliance.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
8 **PROFESSIONAL EXPERIENCE.**

9 A. I hold a B.B.A. in business management from Washburn University
10 and an M.B.A. from Regis University. I am a Certified Internal Auditor
11 and a Certified Fraud Examiner. I joined Westar in 2003 as an
12 Internal Auditor. I was promoted to Manager, Corporate Compliance
13 in June 2007 where I was responsible for coordinating compliance
14 efforts for Sarbanes-Oxley regulations. In March 2011, I became the

1 Manager, NERC Reliability and was responsible for ensuring
2 compliance with North American Electric Reliability Corporation
3 (NERC) requirements. I began my current position as Director,
4 Regulatory Compliance in November 2012. In this role, I direct a
5 staff that is responsible for Westar's energy forecast, weather
6 normalization, FERC docket filings, load research, and formula rates.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I will describe the cost recovery mechanism by which Westar expects
9 to receive revenue for its proposed project.

10 **Q. PLEASE DESCRIBE HOW THE SOUTHWEST POWER POOL**
11 **(SPP) TARIFF COMPENSATES TRANSMISSION OWNERS FOR**
12 **THEIR TRANSMISSION FACILITIES.**

13 A. First, each Transmission Owner (TO) that has facilities under the
14 SPP Open Access Transmission Tariff (OATT) must apply to the
15 Federal Energy Regulatory Commission (FERC) to establish a
16 revenue requirement. SPP takes these approved values and
17 incorporates them into Attachment H of its OATT for revenue
18 requirements. SPP then charges its transmission customers based
19 upon these approved values. For example, transmission customers
20 that have retail or wholesale load attached to Westar's transmission
21 system are in the Westar pricing zone. Westar is also required to
22 purchase transmission service from SPP to serve its retail customers.

1 Q. **HOW DOES A TRANSMISSION OWNER UPDATE ITS REVENUE**
2 **REQUIREMENT?**

3 A. FERC allows a TO a choice in how it updates its revenue
4 requirement. The TO may file a traditional rate case or implement a
5 transmission formula rate. Beginning in 2005, Westar received
6 approval from FERC to implement a formula rate approach in setting
7 its transmission revenue requirements. The formula is designed to
8 update Westar's revenue requirements annually. Use of the formula
9 rate reduces the lag between completion of major projects and their
10 inclusion in rates. Conversely, reductions in costs are also reflected
11 in transmission rates to customers on a timelier basis.

12 Q. **PLEASE EXPLAIN HOW THESE COSTS ARE RECOVERED**
13 **THROUGH THE SPP OATT.**

14 A. There are 17 pricing zones in the SPP. Each zone is defined by the
15 primary TO that owns the transmission facilities in that zone. The
16 transmission rates paid by a customer are based upon Schedules 7,
17 8, 9, and 11 of the SPP OATT which are calculated based upon the
18 revenue requirements stated in Attachment H to the OATT. The
19 specific charges to a transmission customer are determined based
20 on the type of service and the location where the power is delivered
21 or "sunk." The transmission rate charged to transmission customers
22 consist of four components: 1) Existing Zonal Revenue
23 Requirements; 2) Base Plan Zonal Revenue Requirements, 3) Base

1 Plan Regional Revenue Requirements, and 4) direct assigned costs.
2 SPP determines the charges to each customer based upon the
3 customer's transmission reservations and issues a bill to each
4 customer. SPP then collects the revenue from each customer and
5 distributes the money among the TOs pursuant to the terms of
6 Attachment L of the OATT.

7 **Q. PLEASE DESCRIBE THE FOUR COMPONENTS THAT MAKE UP**
8 **THE SPP TRANSMISSION RATES IN MORE DETAIL.**

9 **A.** For new or upgraded transmission facilities (transmission upgrades)
10 required to meet new service requests from customers, the
11 underlying premise for cost recovery in the SPP OATT is to directly
12 assign the costs related to those transmission upgrades to the
13 customer requiring the transmission upgrades.

14 Under certain circumstances, a customer may qualify for
15 those costs to be rolled into the SPP OATT rates in accordance with
16 the rules as described in Attachments J, Z1, and other areas of the
17 SPP OATT (Base Plan Funding). In addition, any transmission
18 upgrades that are required to meet various reliability criteria, or are
19 identified as having regional benefits through the SPP study
20 process (Attachment O) are also Base Plan Funded. The method of
21 recovering the transmission costs which qualify for Base Plan
22 Funding is described in Attachment J of the SPP OATT. The costs
23 associated with Base Plan Funded Projects are allocated between

1 costs collected from the customers in the zone where the upgrade is
2 built (or host zone) and all customers in the SPP. Only facilities built
3 after December 31, 2005, are qualified to be Base Plan Funded. A
4 facility directed to be built by SPP between December 31, 2005, and
5 June 19, 2010, has its costs allocated 33% to the entire SPP region
6 and the remaining 67% allocated to the host zone.

7 Effective June 19, 2010, FERC authorized a change in the
8 way that SPP allocates Base Plan Funded projects. FERC approved
9 the use of a Highway/Byway cost allocation method. The revised
10 cost allocation method allocates costs between customers across
11 the entire SPP region and the customers in the host zone where the
12 project was built based upon the nominal operating voltage of the
13 project. The nominal operating voltage is the voltage SPP has
14 directed the Network Upgrade to be built at. For projects SPP
15 authorized to be built after June 19, 2010, with a nominal operating
16 voltage at or above 300 kV are recovered 100% from the SPP region.
17 Projects with a nominal operating voltage between 100 kV and 300
18 kV are recovered 33% regional and 67% from the host zone.
19 Projects with nominal operating voltages below 100 kV are
20 recovered 100% from the host zone's customers.

21 The first category, Existing Zonal Revenue Requirements,
22 refers to the Revenue Requirements related to transmission facilities
23 that were in service or required to be in service prior to December

1 31, 2005, or were required to be in service prior to joining the SPP if
2 the TO joined after December 31, 2005. Any costs associated with
3 these facilities are collected from service that sinks in the pricing
4 zone where those facilities are located. The second category refers
5 to the Base Plan Funded costs assigned to the host zone.

6 The third category includes those Base Plan Funded regional
7 costs which are recovered from all customers taking transmission
8 service under the SPP OATT. The total amount of Base Plan
9 Funded regional revenue requirements is listed in Table 2 of
10 Attachment H. These costs are allocated to each zone based on the
11 load-ratio share of the zone in comparison to the SPP region.

12 The final category is direct assigned costs. These costs are
13 charged directly to a customer if the total project cost of the Base
14 Plan upgrades allocated to the customer exceeds certain limits in the
15 SPP OATT or if the requested transmission service does not qualify
16 for Base Plan Funding.

17 Q. **WHICH COST RECOVERY METHOD WILL APPLY TO THE EAST**
18 **MANHATTAN TO JEFFREY ENERGY CENTER (JEC) PROJECT?**

19 A. As explained in the testimony of Kelly Harrison, the East Manhattan
20 to JEC project is a base plan funded project. The notification to
21 construct was issued after the approval of the change in Base Plan
22 Funding cost allocation by FERC and instructs Westar to build this
23 project to 345 kV standards, but operated at 230 kV. As a result,

1 33% of the costs associated with the East Manhattan to JEC project
2 will be allocated regionally with the remaining 67% of the costs
3 allocated to the Westar pricing Zone.

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4 **Q. WHAT PERCENTAGE OF THE COSTS FOR THE EAST**
5 **MANHATTAN TO JEC PROJECT WILL BE ALLOCATED TO**
6 **KANSAS CUSTOMERS?**

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7 A. Approximately 73% of the costs of the East Manhattan to JEC project
8 will be allocated to all the pricing zones in Kansas based upon the
9 2014 zonal peak demands (Exhibit JAL-1). This amount will be
10 added to the rates that SPP charges to Westar and other utilities in
11 Kansas for transmission service. Specifically, 70.68% of the project
12 cost will be allocated to customers in the Westar pricing zone. A
13 spreadsheet showing this calculation is attached as Exhibit JAL-2.

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load-ratio share basis

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14 **Q. HOW WILL THE COSTS RELATED TO THE EAST MANHATTAN**
15 **TO JEC PROJECT AFFECT THE RATES PAID BY WESTAR'S**
16 **RETAIL CUSTOMERS?**

17 A. For Westar's retail customers, the amount paid by Westar to SPP for
18 transmission service is recovered through the transmission delivery
19 charge (TDC). As explained by Mr. Harrison, Westar estimates that
20 its portion of the proposed project will cost approximately \$58.3
21 million and will be in service in 2017. The cost to customers will be
22 the highest the first year the project is in service and will decline over
23 time. Based on the cost estimate provided by Mr. Harrison, the

1 impact to an average retail customer using 1000 kWh/month will
2 peak at \$4.15 per year in 2017 and decline by approximately 2.5%
3 per year thereafter due to depreciation. For the average residential
4 customer using 1000 kWh per month, the impact would be \$5.32 per
5 year. A spreadsheet showing the calculation of the initial cost to
6 customers is attached hereto as Exhibit JAL-2. These calculations
7 do not take into account any benefits or other cost reductions that
8 may be produced by having the transmission facilities built.

9 **Q. THANK YOU.**

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Southwest Power Pool, Inc.
Regional and Zonal Transmission System Peak Loads (MW)
Calendar Year 2014

Zone	Total Peak Load (MW)	12 Month Avg. Peak Load (MW)	Load Ratio Share	% KS Load	KS Alloc
CSWS (AEP)	100,793.00	8,399.42	22.7309%	0.0%	0.00%
EDE	11,544.00	962.00	2.6034%	5.0%	0.13%
GMO	18,616.39	1,551.37	4.1984%	0.0%	0.00%
GRDA	9,220.00	768.33	2.0793%	0.0%	0.00%
KCPL	34,477.30	2,873.11	7.7753%	45.0%	3.50%
LES	9,174.00	764.50	2.0689%	0.0%	0.00%
MKEC	6,411.00	534.25	1.4458%	100.0%	1.45%
MIDW	3,805.40	317.12	0.8582%	100.0%	0.86%
NPPD	29,159.67	2,429.97	6.5761%	0.0%	0.00%
OKGE	63,720.68	5,310.06	14.3703%	0.0%	0.00%
OPPD	23,570.00	1,964.17	5.3155%	0.0%	0.00%
SECI	4,471.00	372.58	1.0083%	100.0%	1.01%
SPRM	6,622.00	551.83	1.4934%	0.0%	0.00%
SPS	55,877.95	4,656.50	12.6016%	0.0%	0.00%
WFEC	16,517.00	1,376.42	3.7249%	0.0%	0.00%
Westar	49,439.00	4,119.92	11.1495%	100.0%	11.15%
Total		36,951.53	100.0000%		18.09%

Regional (33% * Kansas Allocation)	5.97%
Westar Zone (67%)	67%
Total Kansas Allocation of Costs	<u>72.97%</u>

Exhibit JAL-2**Estimated Cost Impact on Retail Energy Cost**

Estimated Cost ^[1]	\$	58,317,000.00	
2015 NPCC ^[2]		19.96%	
First Year ATRR ^[3]	\$	11,640,073.20	
Regional Allocation ^[4]		11.15%	
Westar's Retail LRS ^[5]		83.28%	
Regional ATRR ^[9]	\$	3,841,224.16	
Zonal ATRR ^[10]	\$	7,798,849.04	
Total Westar Zonal Alloc. ^[11]	\$	8,227,107.13	70.68%
2014 Retail Energy ^[6]		19,813,625,143	
Cost per 1000 kWh/mo ^[7]		0.35	
Cost per Year ^[8]	\$	4.15	

Notes:

[1] Estimated Cost of Westar's portion of the East Manhattan to JEC line

[2] NPCC = Net Plant Carrying Charge as calculated in the 2015 Transmission Formula Rate

[3] Annual Transmission Revenue Requirement (ATRR) = Estimated Cost * 2015 NPCC

[4] From Exhibit JAL-1, Regional Allocation of costs to Westar's Zone

[5] From Westar's 2015 TDC filing

[6] From Westar's 2015 TDC filing

[7] Total Westar Zonal Alloc. * Westar's Retail LRS / 2014 Retail Energy * 1000

[8] Cost per 1000 kWh/mo * 12

[9] First Year ATRR * 33%

[10] First Year ATRR - Regional ATRR (or 67% * First Year ATRR)

[11] Regional ATRR * Regional Allocation + Zonal ATRR

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

DIRECT TESTIMONY

OF

JULIE A. LUX

WESTAR ENERGY

DOCKET NO. 15-WSEE-365-MIS

I. INTRODUCTION

1

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. Julie A. Lux, 818 South Kansas Avenue, Topeka, Kansas 66612.

4 **Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?**

5 A. I am employed by Westar Energy, Inc. (Westar) as Director,
6 Regulatory Compliance.

7 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
8 **PROFESSIONAL EXPERIENCE.**

9 A. I hold a B.B.A. in business management from Washburn University
10 and an M.B.A. from Regis University. I am a Certified Internal Auditor
11 and a Certified Fraud Examiner. I joined Westar in 2003 as an
12 Internal Auditor. I was promoted to Manager, Corporate Compliance
13 in June 2007 where I was responsible for coordinating compliance
14 efforts for Sarbanes-Oxley regulations. In March 2011, I became the

1 Manager, NERC Reliability and was responsible for ensuring
2 compliance with North American Electric Reliability Corporation
3 (NERC) requirements. I began my current position as Director,
4 Regulatory Compliance in November 2012. In this role, I direct a
5 staff that is responsible for Westar's energy forecast, weather
6 normalization, FERC docket filings, load research, and formula rates.

7 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

8 A. I will describe the cost recovery mechanism by which Westar expects
9 to receive revenue for its proposed project.

10 **Q. PLEASE DESCRIBE HOW THE SOUTHWEST POWER POOL**
11 **(SPP) TARIFF COMPENSATES TRANSMISSION OWNERS FOR**
12 **THEIR TRANSMISSION FACILITIES.**

13 A. First, each Transmission Owner (TO) that has facilities under the
14 SPP Open Access Transmission Tariff (OATT) must apply to the
15 Federal Energy Regulatory Commission (FERC) to establish a
16 revenue requirement. SPP takes these approved values and
17 incorporates them into Attachment H of its OATT for revenue
18 requirements. SPP then charges its transmission customers based
19 upon these approved values. For example, transmission customers
20 that have retail or wholesale load attached to Westar's transmission
21 system are in the Westar pricing zone. Westar is also required to
22 purchase transmission service from SPP to serve its retail customers.

1 Q. **HOW DOES A TRANSMISSION OWNER UPDATE ITS REVENUE**
2 **REQUIREMENT?**

3 A. FERC allows a TO a choice in how it updates its revenue
4 requirement. The TO may file a traditional rate case or implement a
5 transmission formula rate. Beginning in 2005, Westar received
6 approval from FERC to implement a formula rate approach in setting
7 its transmission revenue requirements. The formula is designed to
8 update Westar's revenue requirements annually. Use of the formula
9 rate reduces the lag between completion of major projects and their
10 inclusion in rates. Conversely, reductions in costs are also reflected
11 in transmission rates to customers on a timelier basis.

12 Q. **PLEASE EXPLAIN HOW THESE COSTS ARE RECOVERED**
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14 A. There are 17 pricing zones in the SPP. Each zone is defined by the
15 primary TO that owns the transmission facilities in that zone. The
16 transmission rates paid by a customer are based upon Schedules 7,
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20 on the type of service and the location where the power is delivered
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22 consist of four components: 1) Existing Zonal Revenue
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3 customer's transmission reservations and issues a bill to each
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5 distributes the money among the TOs pursuant to the terms of
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14 Under certain circumstances, a customer may qualify for
15 those costs to be rolled into the SPP OATT rates in accordance with
16 the rules as described in Attachments J, Z1, and other areas of the
17 SPP OATT (Base Plan Funding). In addition, any transmission
18 upgrades that are required to meet various reliability criteria, or are
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9 the use of a Highway/Byway cost allocation method. The revised
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23 project to 345 kV standards, but operated at 230 kV. As a result,

1 33% of the costs associated with the East Manhattan to JEC project
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7 A. Approximately 73% of the costs of the East Manhattan to JEC project
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13 spreadsheet showing this calculation is attached as Exhibit JAL-2.

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[9] First Year ATRR * 33%

[10] First Year ATRR - Regional ATRR (or 67% * First Year ATRR)

[11] Regional ATRR * Regional Allocation + Zonal ATRR