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XCEL ENERGY

Kestrel 230-kV Interconnection

Transmission Line Routing Study

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EXECUTIVE SUMMARY

Xcel Energy completed a routing study to identify, evaluate, and select a preferred route for the Kestrel 230-kilovolt (kV) Interconnection (Project). The proposed action is to tap into and extend an existing Xcel Energy 230-kV transmission line to provide service to a new, large retail customer (QTS), for its planned data center campus on 80 acres, owned by QTS, in an industrial area in the City of Aurora, Colorado. The Project study area is located in the eastern portion of the Denver metropolitan area in Arapahoe and Adams Counties, and the City of Aurora. The following discussions summarize the Project's purpose and need, the scope of this routing study, routing process, and public outreach and engagement.

The Project includes construction of the transmission line extension and a new substation, the Kestrel Substation, at the customer's facility. The Kestrel Substation will be owned and operated by Xcel Energy. In addition, the customer will own and operate a separate, but adjacent substation located on the data center campus. Land use in the study area is largely commercial/industrial and a large block of land is zoned as future residential.

The study area is bounded by Gun Club Road and E-470 on the west, Powhaton Road on the east, Smith Road and the Union Pacific Railroad on the north, and Sixth Avenue on the south. A viable route for the transmission line extension, from an interconnection point with an existing Xcel Energy-owned 230-kV transmission line to the new data center campus, was determined through the routing study and input from the local public and jurisdictions.

Jurisdictions in the study area include Adams County, Arapahoe County, and the City of Aurora as well as the Colorado Department of Transportation (CDOT). Depending on the route selected for the transmission-line extension, permits may be needed from each of these jurisdictions. Temporary distribution service to the data center campus is in place as of fall 2022 to enable construction and commissioning of the first data center building. Xcel Energy anticipates beginning permitting processes for the interconnection in late 2022, with construction of the Kestrel 230-kV Interconnection in 2023-2024, the Project has a planned in-service date of 2024.

The customer intends to finance the entire Project (eliminating financial risk or cost recovery from Xcel Energy customers). The Project will enable a large customer to locate its first facility in Colorado, supporting economic and environmental benefits that include creating at least 50 full-time, high-paying jobs and an estimated \$1.1 billion in capital investment.

Scope of Routing Study

The scope of this routing study includes identifying, analyzing, and evaluating route alternatives for the new transmission line to connect a new substation at the customer's facility to a point of interconnection with a nearby existing Xcel Energy-owned 230-kV transmission line. The length of the transmission line will be approximately 1.3 miles. This routing study does not discuss designing, engineering, or acquiring rights-of-way for the transmission line. Rather, these activities will occur in subsequent phases of the Project if approval is received from the applicable local governments.

Routing Process

Xcel Energy used a comprehensive evaluation process for identifying, analyzing, and selecting the preferred transmission-line route (Preferred Route) for the Project. During this routing study, approximately 7.5 miles of route alternatives were analyzed in an approximately 3.25-square-mile Project study area. Section 4.0 describes the routing process, which includes: (1) collecting land use and environmental resource data; (2) identifying opportunities for and constraints to routing the transmission line; (3) identifying route alternatives; (4) screening and comparing the route alternatives, and (5) identifying the Preferred Route for permitting with applicable local governments.

Community Outreach and Engagement

Once preliminary route alternatives were identified and evaluated, Xcel Energy committed to soliciting input from landowners in the study area and other stakeholders (e.g., local officials, communities in the vicinity of the Project) before selecting a preferred route for the transmission line extension. Xcel Energy prepared for and hosted a public open house meeting on October 25, 2022, to share Project information with the landowners and other stakeholders and solicit questions and comments. Xcel Energy developed a mailing list of 41 stakeholders, including property owners crossed by and adjacent to the route alternatives and registered Homeowner Associations and neighborhood organizations within one mile of the route alternatives and Kestrel Substation site. Notifications were mailed to those on the mailing list 15 days in advance of the meeting. Email notices were sent to city and county representatives.

Nine people attended the open house and provided seven comments. Questions and comments received during the public open house meeting focused on the potential to access electricity from the new transmission-line extension and potential effects on future plans for residential development and on existing industrial/commercial operations. Xcel Energy considered the comments in completing this routing study.

Conclusion

Xcel Energy believes the Preferred Route, the 1.3-miles Smith Road East Route Alternative, best meets the Project's need while minimizing impact on land uses and environmental resources. The route begins at the 230-kV transmission line owned by Xcel Energy that parallels Smith Road, crosses a historic segment of the Union Pacific Railroad (UPRR) south of the 230-kV transmission line, and proceeds south (0.5 mile). The route then turns west and parallels the north side of Colfax Avenue and Interstate 70 (I-70) for 0.2 mile. The route then turns south crossing Colfax Avenue and I-70 (0.05 mile) and continues south along the west side of an unincorporated area of Arapahoe County to the substation site (0.4 mile). The Preferred Route avoids areas zoned for future residential, avoids impacts on existing commercial and industrial operations in the area, and minimizes impacts on public rights-of-way.

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ACRONYMS AND ABBREVIATIONS

CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CO	Colorado
CPW	Colorado Parks and Wildlife
ESA	Endangered Species Act of 1973
FAA	Federal Aviation Administration
GIS	geographic information system
I-70	Interstate 70
kV	kilovolt
NRHP	National Register of Historic Places
OAHP	Office of Archaeology and Historic Preservation
Project	Kestrel 230-kV Interconnection Project
USFWS	United States Fish and Wildlife Service

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1.0 INTRODUCTION

Xcel Energy is responding to a customer's request for an interconnection with Xcel Energy's transmission system to serve a new data center operation, planned by QTS, in an existing industrial area in the City of Aurora, Colorado.

Xcel Energy is proposing to tap into and extend an existing 230-kilovolt (kV) transmission line to serve the new, large retail customer. Referred to as the Kestrel 230-kV Interconnection (Project), the Project includes construction of an extension of an Xcel Energy-owned 230-kV transmission line and a new substation, the Kestrel Substation, at the customer's facility. The Kestrel Substation will be owned and operated by Xcel Energy. In addition, the customer will own and operate a separate, but adjacent substation located on the data center campus. Land use in the study area is largely commercial and industrial, with a large block of land zoned as future residential.

Xcel Energy retained POWER Engineers, Inc. to conduct a routing study to identify transmission line route alternatives to analyze and evaluate for the Project, assist with public outreach and engagement, and support the permitting effort with the applicable local governments. The purpose of this routing study report is to document Xcel Energy's approach and analysis of transmission line route alternatives based on available environmental resource data, Xcel Energy's engineering requirements and associated costs, local government permitting requirements, land and realty concerns, and public input. The routing study does not discuss designing, engineering, or acquiring rights-of-way for the transmission-line route. Rather, these activities will occur in subsequent phases of the Project if approval is received from the applicable local governments.

1.1 Project Purpose and Need

The purpose of the Project is to respond to a customer's request to tap into and extend an existing Xcel Energy-owned 230-kV transmission line to provide power to a new data center. The Project will enable a large customer to locate its first facility in Colorado, supporting economic and environmental benefits that include creating at least 50 full-time, high-paying jobs and an estimated \$1.1 billion in capital investment. The customer intends to finance the entire Project (eliminating financial risk or cost recovery from Xcel Energy's Colorado customers).

1.2 Project Location and Overview

The Project study area (Figure 1) is bounded by Gun Club Road and E-470 on the west, Powhaton Road on the east, Smith Road and the Union Pacific Railroad on the north, and Sixth Avenue on the south. A viable route for the transmission line extension, from an interconnection point with an existing Xcel Energy-owned 230-kV transmission line to the new data center campus, was determined through the routing study and input from the local public and jurisdictions.

Jurisdictions in the study area include the counties of Adams and Arapahoe and the City of Aurora, as well as the Colorado Department of Transportation (CDOT). Depending on the route selected for the transmission-line extension, permits may be needed from each of these jurisdictions. Temporary distribution service to the data center campus will be in place this fall to enable construction and commissioning of the first data center building. Xcel Energy anticipates beginning permitting processes for the interconnection in late 2023, construction of the Project in late 2024, and a scheduled in-service date of early 2025.

1.3 Regulatory Framework

Federal, state, and local government agencies' regulatory requirements were reviewed for applicability to the Project. As determined by the location of the Preferred Route described in Section 4.4.3 and avoidance of sensitive environmental resources, Xcel Energy will not be required to coordinate with the federal agencies outlined below:

- » United States Army Corps of Engineers – Project avoids impacts on waters of the United States.
- » United States Fish and Wildlife Service (USFWS) – Project avoids impacts on federally listed plant and wildlife species.
- » Federal Highway Administration – a permit for the transmission line crossing of I-70 will be obtained from CDOT.

Xcel Energy will be required to consult with the Federal Aviation Administration (FAA) for the construction of transmission structures near public airports or ground based navigational aids. Xcel Energy will work with the FAA to meet any permitting requirements.

Xcel Energy will coordinate with state of Colorado agencies as necessary, including the Colorado Department of Public Health and Environment (CDPHE) to obtain stormwater permit coverage for construction activities. Colorado Parks and Wildlife (CPW) was consulted for Project activities and determined the Project will not affect state-listed wildlife species. A crossing permit will be obtained from the CDOT for Project activities crossing federal highway right-of-way associated with I-70. An application will be submitted to obtain permission from Union Pacific Railroad for a wireline crossing of the Union Pacific Railroad. Xcel Energy also may need to obtain a permit to be on Railroad Property for Nonintrusive Civil Engineering Survey Work if any survey work will be performed on or about the tracks, and/or property of the Union Pacific Railroad Company.

Xcel Energy will file a Section 1041 Permit Application for Site Selection and Construction of a Major Facility of a Public Utility with Adams County and a Conditional Use Permit application with the City of Aurora for the portions of the Preferred Route in each jurisdiction. Based on communications with Arapahoe County, it was determined that due to the small segment of the Project (less than 0.1 mile) within their jurisdiction, the Project may qualify for a Finding of No Significant Impact (FONSI), and permitting would not be required. Xcel Energy is currently working with Arapahoe County to determine permitting requirements. were reviewed including:

- » Adams County Development Standards and Regulations (Adams County 2020).
- » Adams County Comprehensive Plan (Adams County 2012).
- » Arapahoe County, Colorado Land Development Code (Arapahoe County 2019).
- » Regulations Governing Areas and Activities of State Interest in Arapahoe County (1041 Regulations) (Arapahoe County 2006).
- » 2018 Arapahoe County Comprehensive Plan (Arapahoe County 2018).
- » Aurora Unified Development Ordinance (City of Aurora 2019).

These codes provide the legal framework for guiding and permitting land use and development in each county. The comprehensive plans provide goals and policies to support development while protecting land uses and cultural and natural resources, including floodplains, wetlands, riparian corridors, wooded and natural areas, wildlife habitat, and prime farmland.

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2.0 PROJECT DESCRIPTION

In response to the customer's request, Xcel Energy proposes to develop and construct the 230-kV overhead, single-pole, double-circuit transmission-line extension from the tap of an existing Xcel Energy 230-kV transmission line to Xcel Energy's proposed Kestrel Substation. The transmission line extension will be approximately 1.3 miles long. The new customer, QTS, has requested an interconnection with Xcel Energy's transmission system for up to 200 megawatts (MW) of power to serve its planned data center operation.

The proposed right-of-way for the new 230-kV transmission line will be approximately 100 feet wide, with 50 feet on either side of the centerline. Figure 2 shows the typical design for the double-circuit 230-kV, steel, single-pole structures proposed for the Project, which is the same design as the existing 230-kV transmission lines in the study area. The diameter of the pole structures will range from 48 to 96 inches at the base. Transmission structure heights will range from 80 to 130 feet above ground level depending on engineering design requirements. The span between structures will be approximately 800 to 1,200 feet.

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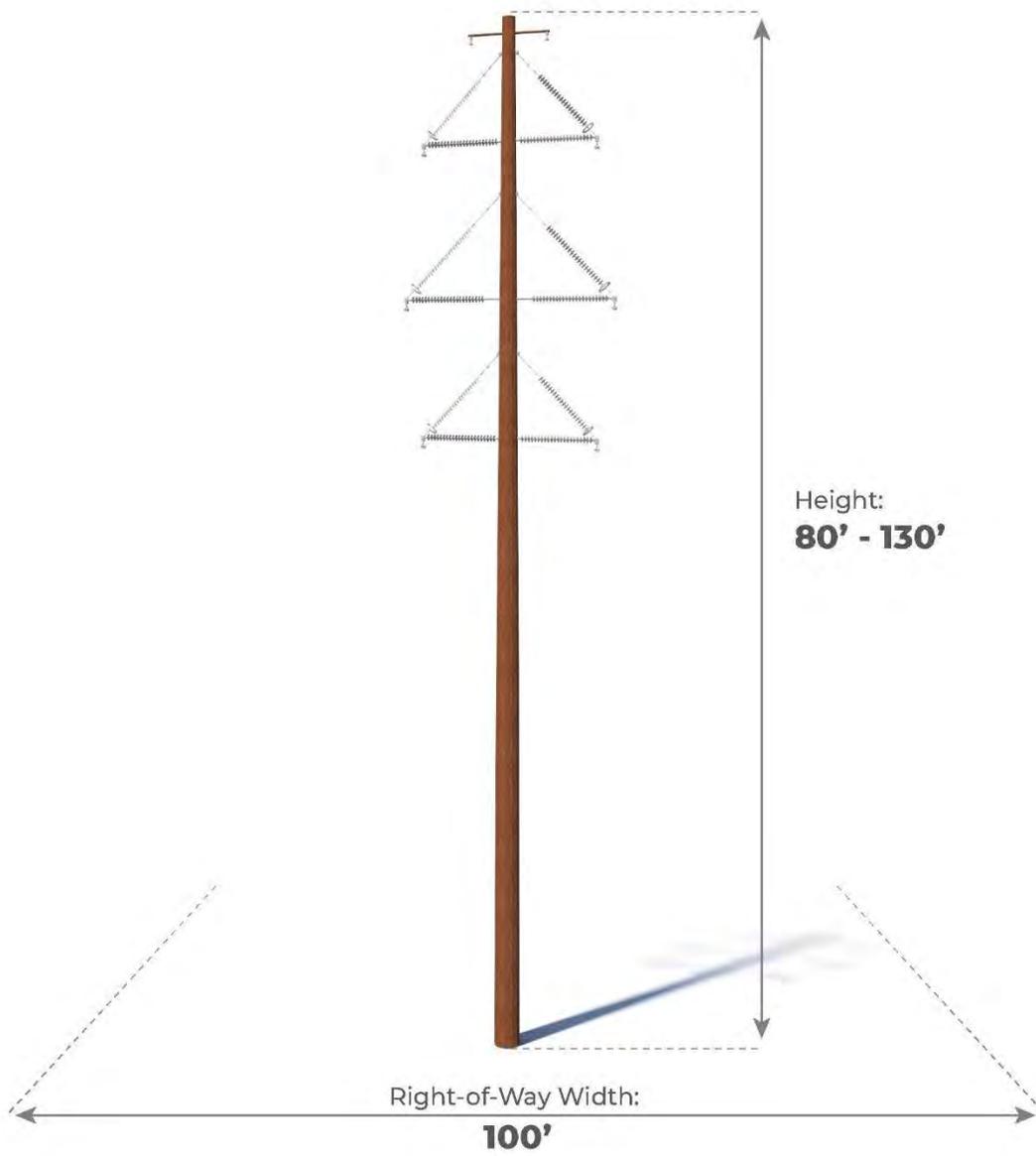


FIGURE 2 230-KV TRANSMISSION STRUCTURE

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3.0 PUBLIC OUTREACH AND ENGAGEMENT

Recognizing the importance of and committed to interaction with the public in the vicinity of the Project, Xcel Energy developed a Public Outreach and Engagement Plan with the intent of informing potentially affected landowners and other stakeholders (e.g., local officials, adjacent communities) about the Project. The Public Outreach and Engagement Plan included several methods for ensuring that stakeholders could be heard through various means of communication as follows:

- » Established a Project-dedicated telephone line to leave messages at 303-571-7177.
- » Established a Project -dedicated email account: kestrel230kvinterconnection@xcelenergy.com.
- » Established a Project-dedicate Webpage: [https://transmission.xcelenergy.com/Kestrel 230-kV Interconnection](https://transmission.xcelenergy.com/Kestrel%20230-kV%20Interconnection).
 - Prepared a fact sheet explaining the purpose of and need for the Project, describing the Project, and providing Project contact information.
 - Once preliminary route alternatives were identified and evaluated, Xcel Energy hosted a public open house “meet and greet” to provide the opportunity to discuss the Project with attendees one-on-one.

3.1 Public Open House Meet and Greet

The intent of the public open house meeting was to introduce the Project and solicit comments that would help the Project team to address the stakeholders’ questions, concerns, and issues. Information acquired from the meeting also supported refinement of the route alternatives and selection of a preferred route that will be carried forward into the next phase of Project permitting.

Xcel Energy hosted the two-hour-long meeting on Tuesday, October 25, 2022, at Vista Peak Exploratory School located just outside of the Project study area at 24551 East 1st Avenue, Aurora. Notifications of the open house were sent to:

1. Landowners whose parcels are crossed or adjacent to the route alternatives and the proposed Kestrel Substation site.
2. Registered Homeowner Associations (HOA) and neighborhood organizations within one mile of the study area boundary.
3. The owner and management of the RV Park located on the east side of Powhaton Road and across from a potential point of transmission-line interconnection).
4. Representatives from the three local jurisdictions within the study area (City of Aurora, Arapahoe County, and Adams County).

The mailing list, map showing the area covered by the mailing list, and the open house notification sent to stakeholders are provided in Appendix A (Sample of Mailings Sent to Landowners). Materials presented at the public open house meet and greet (i.e., fact sheet, display boards, comment form, sign-in sheet) are provided in Appendix B (Public Open House Meeting Materials).

The open house was staffed by Project team members, and attended by nine stakeholders. Attendees included property owners and representatives of real-estate development companies with plans for future commercial development north of I-70 and future residential development on a large block of land south of I-70 in the southeast corner of the study area. Also, a representative from a water-bottling plant with current operations located in the industrial area north of I-70 and adjacent to the Smith Road West Route Alternative. A representative from the Arapahoe County Planning Department also attended the open house and provided information regarding the County's requirements for permitting the preferred transmission line route in the portion of unincorporated Arapahoe County that has been designated as an Area and Activity of State Interest.

Generally, attendees expressed that the main purpose of their participation in the open house meeting was to learn about the Project and ask questions. Common questions received focused on the potential for accessing power from the new transmission-line extension, potential effects on future development plans, and potential for interference with existing operations. Questions also were related to potential effects of the Project on utility rates, effects on access to existing businesses during Project construction, and effects from the transmission line on sensitive instruments and equipment that control industrial operations.

The specific questions that the Project team members received from attendees at the Open House are listed below:

- » How can developers in the study area access power from Xcel Energy's transmission system for their future development?
- » Will construction activities of the proposed line affect access to businesses and/or properties in the study area?
- » Will an easement across privately owned property be acquired?
- » How would the proposed line affect sensitive equipment and instruments inside our plant?
- » Will this project increase or reduce the current rates we pay?

4.0 ROUTING STUDY PROCESS

The routing study process is organized in five steps, as follows:

- » Step 1: Collect data to characterize the land uses and environmental resources in the Project study area.
- » Step 2: Identify opportunities for and constraints to routing the transmission line extension.
- » Step 3: Identify route alternatives for the transmission line extension.
- » Step 4: Screen, compare, and rank the route alternatives and identify a preferred route to carry forward into permitting.
- » Step 5: Prepare and submit applications to address local government permitting requirements.

Figure 3 details the process that was used for the transmission line routing study.

4.1 Step 1 – Land Use and Environmental Resource Data Inventory and Mapping

Available secondary data from federal, state, and local government agencies were gathered and compiled for the study area. A general list of the data considered in the routing study is outlined below.

- » Biological Resources
 - Plants/Vegetation communities.
 - Wildlife habitat.
 - Sensitive, threatened, and endangered species (wildlife and plants).
- » Land Use Resources
 - Jurisdiction and land ownership.
 - Existing and planned land use, and zoning.
 - Transportation facilities, including roads, railroads, and airports/airstrips.
 - Parks, recreation, and preservation areas, and conservation easements.
 - Schools and places of worship.
 - Utilities, including electric transmission lines, oil/gas pipelines and wells, and water wells.
- » Surface Water Resources
- » Cultural Resources
- » Visual Resources
 - Existing setting and visual conditions.
 - Sensitive viewers.

Documentation of the inventoried data included a combination of mapped and written elements. Mapped information was organized using a geographic information system (GIS) database. The

GIS data were used to depict resources in the study area, assess resource sensitivity, identify opportunities for and constraints to routing, and identify, compare, and evaluate route alternatives for the transmission line.

4.2 Step 2 – Identify Routing Opportunities and Constraints

4.2.1 Opportunities and Constraints

Routing opportunities and constraints were based on a measure of the probable adverse response to direct and indirect effects associated with construction, operation, and maintenance of the new transmission line. In determining the sensitivity of a resource to the Project, the following factors were qualitatively considered:

- » **Resource Value:** A measure of rarity, high intrinsic worth, singularity, or diversity of a resource in the Project study area.
- » **Protective Status:** a measure of the formal concern expressed for a resource, either through legal protection or by designation of special status or by law or ordinance.
- » **Present and Future Uses:** A measure of the level of conflict based on policies of land management and/or use, community values, and political opinion.
- » **Hazards:** A measure of the degree to which a resource represents a significant hazard to the Project's construction, operation, or maintenance.

Considering the criteria described above, the land use and environmental data were evaluated and assigned a feasibility level of low, moderate, or high as defined below. The higher the feasibility of a resource, the more compatible it would be for routing a transmission line in a given area.

- » **Low Feasibility:** Areas where resource conflicts identified through the routing study process are high. These areas of low feasibility are considered to be of maximum constraint, or low opportunity, for routing a transmission line. For the purpose of this routing study, examples of low feasibility areas include areas located in the right-of-ways for Highway E-470 and I-70, areas zoned for future residential development, and areas with minimal space for the construction of a 230-kV transmission line.
- » **Medium Feasibility:** Areas of potential environmental effects due to impacts on important or valued resources, resources assigned protective status, or some conflict with use. Locations of moderate feasibility are considered to be moderate constraint areas and less desirable than high feasibility areas for routing a transmission line. For the purpose of this routing study, examples of moderate sensitivity areas include areas with numerous underground and/or overhead utilities, limited access, and a need for high levels of traffic control during construction and routine maintenance of the transmission line.
- » **High Feasibility:** Areas determined to be the most suitable for construction and operation of the transmission line. Locations of high feasibility are considered to be low constraint or most desirable for routing a transmission line. For the purpose of this routing study, examples of high feasibility areas include locations with the least amount of impact on commercial and industrial operations, areas that avoid constructing in CDOT right-of-way, and avoidance of areas zoned for future residential development.

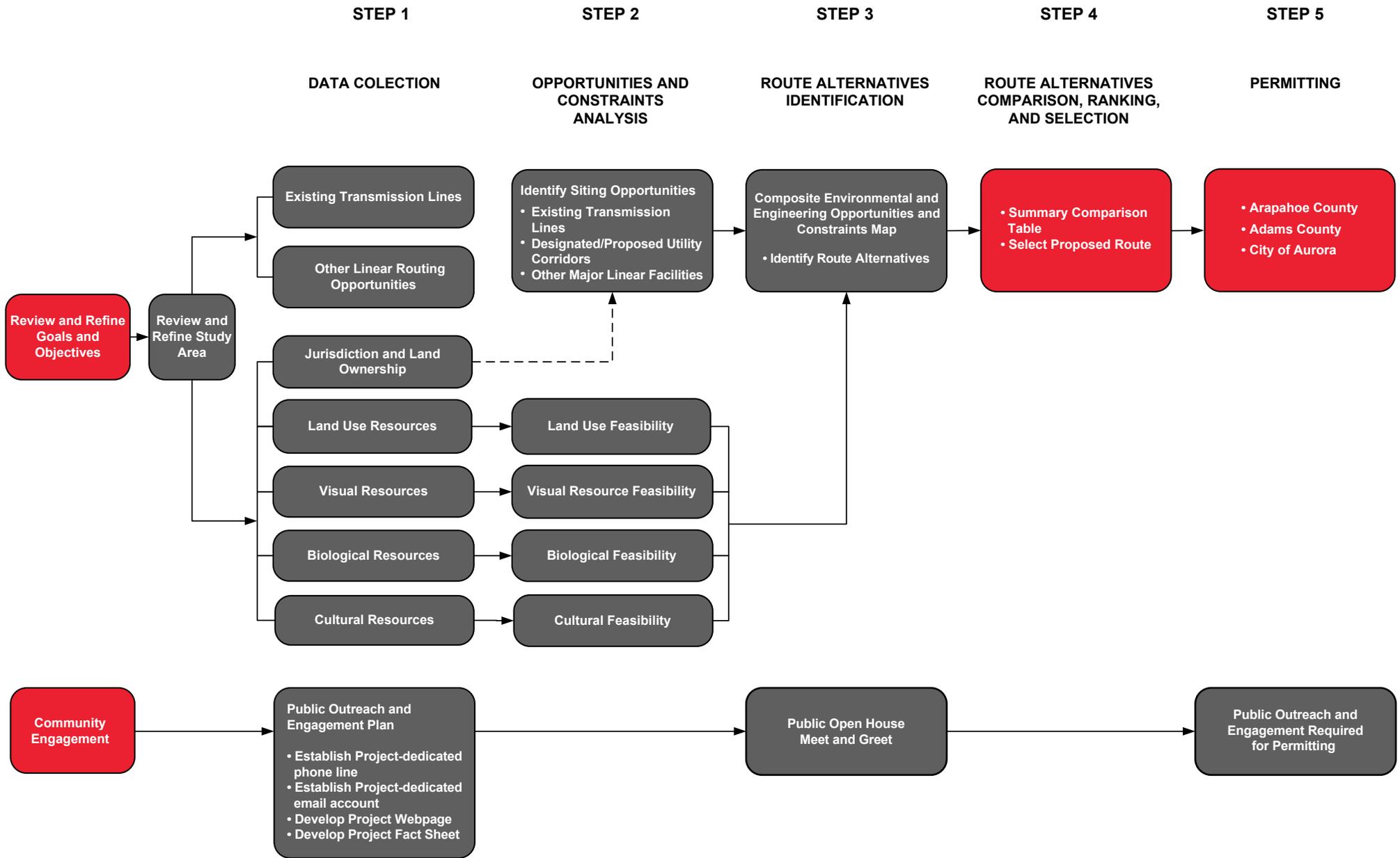


Figure 3 - Routing Process
Kestrel 230 kV Interconnection Project

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4.2.2 Engineering Constraints

In the study area, the primary engineering constraints included multiple underground and/or overhead utility lines, limited space for construction of a 230-kV transmission line near industrial/commercial buildings, and the presence of CDOT right-of-way.

Other engineering constraints included limited access and a high level of traffic control needed for both initial construction and during routine maintenance of the transmission line. Xcel Energy conducted a site visit to identify solutions to these engineering constraints.

Opportunities for routing the proposed transmission line were based on an analysis of the feasibility of introducing and the presence of the transmission line in study area. Opportunities for routing the Project's facilities include locations that:

- » Use existing compatible linear rights-of-way, including transmission lines, railroads, highways, and pipelines.
- » Parallel property lines, section lines, or half-section lines.
- » Minimize impacts on industrial and commercial uses.
- » Minimize impacts on future planned land uses.
- » Maximize the use of existing access and minimize new access road construction.
- » Facilitate efficient and cost-effective transmission line design and construction.

4.3 Step 3 – Identify Transmission Line Route Alternatives

Using a combination of Google Earth aerial photo imagery, land use and environmental resource data, and a field reconnaissance visit, route alternatives were developed to connect an existing Xcel Energy 230-kV transmission line with the proposed Kestrel Substation site. Route alternatives included smaller components called "links" to allow for tracking of data. These links were combined to form route alternatives. Figure 4 shows the links and route alternatives developed for evaluation and analysis.

Table 1 presents the number of end-to-end alternative routes that were identified through the combination of route links.

TABLE 1 ROUTE ALTERNATIVES

ROUTE LINKS	END-TO-END ROUTE ALTERNATIVES
10, 15, 50, 60	Smith Road East Route Alternative
30, 50, 60	Smith Road West Route Alternative
5, 15, 50, 60	Colfax Avenue Route Alternative North
20, 60	Colfax Avenue Route Alternative South
40	Gun Club Road Route Alternative Route

A description of each end-to-end route alternative that were developed follows.

- » **Smith Road East** (1.3 miles) begins at the 230-kV transmission line owned by Xcel Energy that parallels Smith Road, crosses historic segment of the Union Pacific Railroad (UPRR) south of the 230-kV transmission line, and proceeds south along Link 10 (0.5 mile), the route then turns west along Link 15 and parallels the north side of Colfax Avenue and I-70 for 0.2 mile. The route then turns south crossing Colfax Avenue and I-70 (Link 50, 0.05 mile) and continues south along the west side of an unincorporated area of Arapahoe County to the substation site (Link 60, 0.4 mile). This route is the second shortest route alternative and avoids crossing through the commercial area along Link 10 and the area planned for future residential development along Link 20. Potential challenges include crossing the historic segment of the UPRR, crossing I-70, and involves permitting in three jurisdictions (Adams and Arapahoe Counties and City of Aurora).
- » **Smith Road West** (1.0 mile) also begins at the Xcel Energy-owned 230-kV transmission line that parallels Smith Road, crosses historic segment of the UPRR south of the 230-kV transmission line, crosses through the commercial area north of I-70 (Link 30, 0.5 mile), crosses Colfax Avenue and I-70 (Link 50, 0.05 mile), and continues south to the substation site (Link 60, 0.4 mile). While this is the shortest of the route alternatives and avoids areas planned for future residential development, potential challenges include crossing the UPRR, crossing through commercial and industrial areas with limited space for the construction of a new transmission line, crossing I-70, and would involve permitting in three jurisdictions (Adams and Arapahoe counties and City of Aurora).
- » **Colfax Avenue South** (1.9 miles) begins at the 230-kV transmission line that parallels Powhatan Road on the eastern side of the Project study area, proceeds west paralleling the south side of Colfax Avenue and I-70 for 1.5 miles (Link 20). This route also borders the area that is zoned for residential by the City of Aurora. The route then turns south along Link 60 to the substation site. This is the longest of the route alternatives, the route avoids crossing the UPRR, and I-70, and would only involve permitting in two jurisdictions, but potential challenges include objection by the City of Aurora to the route alignment along the northern boundary of the area zoned for residential.
- » **Colfax Avenue North** (1.8 miles) begins at Line 5185 at the Xcel Energy Blue Spruce Energy Center, proceeds south to I-70 and parallels I-70 along Links 5 and 15 for 1.2 miles, then turns south, crosses I-70 and the Colfax Avenue frontage road (Link 50, 0.05 mile) and continues south (Link 60, 0.4 mile) to the substation site. This route alternative would cross I-70 but avoids crossing the UPRR. The route alternative is also the second longest route, and the majority of the alignment would likely be located in CDOT right-of-way.
- » **Gun Club Road** (1.6 miles). A route alternative along Gun Club Road was identified originally; however, the route alternative was eliminated from further consideration due to the potential complex challenges associated with the route that includes numerous underground and overhead utilities and crossing through the rights-of-way and interchange associated with highways E-470 and I-70.

4.4 Step 4 – Transmission Line Route Alternatives Comparison

4.4.1 Introduction

The following discussions describe how Xcel Energy narrowed the four remaining end-to-end route alternatives to identify the Preferred Route.

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4.4.2 Route Alternatives Comparison and Evaluation

The routing criteria listed in Section 4.1 were used to compare and evaluate each end-to-end route alternative. In analyzing the routing criteria data calculated for each end-to-end route alternative, a feasibility level based on engineering and environmental constraints and opportunities was assigned for each route alternative. The higher the feasibility ranking the more compatible the route, the lower the feasibility ranking the less compatible the route.

In reviewing the routing criteria data, it was determined that avoidance of areas planned for future residential development, avoidance of public and CDOT rights-of-way, and minimizing impacts on existing business and industrial operations were the key determinants in ranking the feasibility of the route alternatives. Figure 5 illustrates the dominant constraints associated with the route alternatives. Based on the analysis, Table 2 presents the ranking for each of the four end-to-end route alternatives. More detail regarding the evaluation and comparison is provided in the table in Appendix C (Route Alternatives Comparison).

TABLE 2 ROUTE ALTERNATIVE FEASIBILITY RANKING

END-TO-END	RANK
Smith Road East Route Alternative	1st
Smith Road West Route Alternative	2nd
Colfax Avenue North Route Alternative	3rd
Colfax Avenue South Route Alternative	4th

After evaluating, comparing, and ranking the route alternatives, the Smith Road East Route Alternative was deemed to be the most feasible route to permit for construction. The Smith Road West Route Alternative was eliminated from further consideration due to the limited space in between the industrial buildings that could not accommodate a 230-kV transmission line and potential impact on adjacent businesses and industrial operations during construction and routine maintenance of the transmission line.

The Colfax Avenue South Route Alternative was not a viable option as it crosses through the area planned as an I-70 interchange and borders an area zoned for residential development by the City of Aurora. This route is the longest route that was being considered.

The Colfax Avenue North Route Alternative was less feasible as the majority of the line would be located in the CDOT right-of-way. Potential future expansion of I-70 would most likely force relocation of the transmission line.

4.4.3 Preferred Route

Through the comparison of route alternatives, Xcel Energy identified the Smith Road East Route Alternative as the Preferred Route as it is the most feasible route with the least challenges (Figure 6).

Among the remaining route alternatives, the Preferred Route's key benefits include the following:

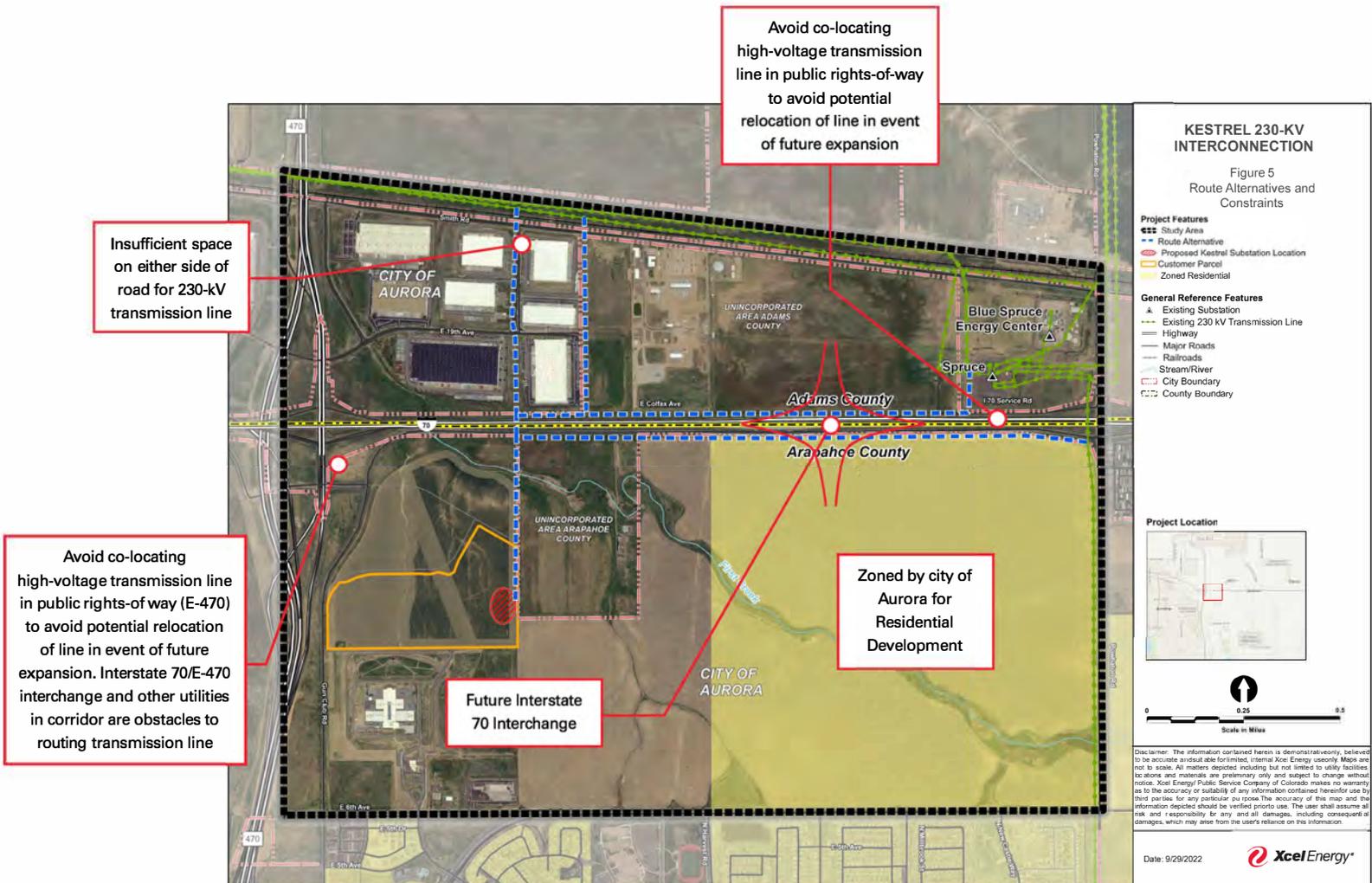
- » Highest level of feasibility from an engineering standpoint.
- » Avoids crossing through areas planned for future residential development.
- » Transmission line structures would not be located in CDOT right-of-way.
- » Low impacts on operating commercial businesses and industrial operations in the area.
- » Second shortest route at 1.3 miles.
- » Second lowest construction cost at \$3.8 million.

For these reasons, Xcel Energy believes that the preferred route is the best route to advance for permitting with the local jurisdictions. Xcel Energy is scheduled to begin the permitting process in late 2023.

4.5 Step 5 – Permitting Evaluation

Table 3 lists the permits, approvals, and other authorizations potentially required for the Project's construction, operation, and maintenance activities.

Route Alternatives and Constraints



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TABLE 3 PERMITS AND AUTHORIZATIONS

JURISDICTION	PERMIT OR AUTHORIZATION REQUIRED	AGENCY / ORGANIZATION	ACTION REQUIRING PERMIT OR APPROVAL	TIMEFRAME FOR PERMIT ISSUANCE
Federal				
FAA	Notice of Proposed Construction or Alteration and Notice of Actual Construction or Alteration	FAA Regional Office	Installation of transmission structures near public airports or ground-based navigational aids.	45 Days
United States Environmental Protection Agency	Spill Prevention, Control, and Countermeasure (SPCC) Plan	United States Environmental Protection Agency Region 8 1595 Wynkoop Street Denver, CO 80202-1129 (303) 312-6312	Use and storage of oil products in quantities exceeding 1,320 gallons in aggregate per Title 40 Code of Federal Regulations Part 112.	N/A; SPCC Plan is self-administered.
State of Colorado				
CDOT	Crossing Permit	CDOT Region 1 2829 W. Howard Place Denver, CO 80204 (303) 759-2368	Crossing of I-70 with transmission line.	45 Days
CDPHE	Storm Water Management Plan	CDPHE 4300 Cherry Creek Drive South Denver, CO 80246 (303) 692-2000	Construction projects for which ground disturbance is one acre or greater.	90 days for preparation, submittal, and approval
Arapahoe County				
Arapahoe County	Land Development Application Form	Engineering Services Division 6924 S. Lima Street Centennial, CO 80112 720-874-6500	1041 FONSI Review	60 Days

JURISDICTION	PERMIT OR AUTHORIZATION REQUIRED	AGENCY / ORGANIZATION	ACTION REQUIRING PERMIT OR APPROVAL	TIMEFRAME FOR PERMIT ISSUANCE
Adams County				
Adams County	1041 Permit for Siting and Construction of a Major Facility of a Public Utility	Planning Department 4430 S. Adams County Pkwy Brighton, CO 80601 (720) 523-6800	Construction of a major electrical facility, which includes transmission lines in the unincorporated portion of Adams County.	90 Days
	Civil / Construction Permits		Any new construction occurring in the County right-of-way.	TBD with County
City of Aurora				
City of Aurora	Conditional Use Permit	Planning Department 15151 E. Alameda Pkwy #2300 Aurora, CO 80012 (303) 739-7250	Construction of a transmission line operated at 69 kV or higher.	60 days
Union Pacific Railroad				
Union Pacific Railroad	Permit to be on Railroad Property for Utility Survey	4085 York St. Denver, CO 80216 (402) 544-5000	Temporary permission to be on or about the tracks and/or property of Union Pacific Railroad Company for the purpose of performing nonintrusive civil engineering survey work.	TBD with railroad
	Crossing Permit		Crossing of railroad tracks with transmission line	45-60 days

5.0 LAND USE AND ENVIRONMENTAL RESOURCE ANALYSIS

5.1 Introduction

This section describes the Project study area's existing conditions and land use, biological resources, water resources, visual resources and aesthetics, and cultural resources.

5.2 Land Use

5.2.1 Regulatory Framework

The majority of the lands in the study area are privately owned. Local government zoning guides the use and development of private land.

Local Government

The study area is approximately 3.25 square miles in Arapahoe and Adams counties and the City of Aurora in the eastern portion of the Denver metropolitan area in north-central Colorado.

Jurisdictions in the study area include Arapahoe and Adams counties and the City of Aurora. Xcel Energy will file a Section 1041 Permit Application for Site Selection and Construction of a Major Facility of a Public Utility with Adams County and a Conditional Use Permit application with the City of Aurora for the portions of the Preferred Route in each jurisdiction. Local government land use codes and comprehensive plans for relevant requirements, guidelines, and policies were reviewed including:

- » Adams County Development Standards and Regulations (Adams County 2020).
- » Adams County Comprehensive Plan (Adams County 2012).
- » Arapahoe County, Colorado Land Development Code (Arapahoe County 2019).
- » Regulations Governing Areas and Activities of State Interest in Arapahoe County (1041 Regulations) (Arapahoe County 2006).
- » 2018 Arapahoe County Comprehensive Plan (Arapahoe County 2018).
- » Aurora Unified Development Ordinance (City of Aurora 2019).

These codes provide the legal framework for regulating and permitting land use and development in each jurisdiction. The comprehensive plans provide goals and policies to support development while protecting land uses and cultural and natural resources, including floodplains, wetlands, riparian corridors, wooded and natural areas, wildlife habitat, and prime farmland. No specific policies concerning electric transmission lines were identified in the land use plans for Adams County, Arapahoe County, or the City of Aurora.

5.2.2 Existing Conditions

Land use data were collected from sources available in the public domain such as GIS data, parcel data from county assessors' offices, and Arapahoe and Adams counties, and the City of

Aurora land use plans and development codes. Data were collected for the following land use features:

- » Existing commercial, industrial, and residential land uses.
- » Places of worship, schools, parks and recreational facilities, and conservation areas.
- » Transportation facilities including roads, railroads, and airports.
- » Utilities including electric power substations and transmission and distribution lines, oil and gas pipelines and wells, and water wells.

Land use in the Project study area is primarily commercial/industrial but also includes a large area zoned for future residential use.

Existing Land Use

The study area comprises predominately commercial and industrial land uses with a large block of land in the southeast corner of the study area (south of I-70) zoned for future residential.

Places of worship, schools, and parks, and recreational facilities are absent in the study area and are generally concentrated in the areas just south and west of the study area boundaries.

Major transportation thoroughfares in the study area include Highway E-470 and I-70. Highway E-470 is the study area's western boundary while I-70 bisects the study area in an east-west direction and is the border between Arapahoe and Adams counties. North of I-70 land use includes commercial and industrial operations located under the jurisdiction of the City of Aurora, with some vacant undeveloped land located in unincorporated Adams County. South of I-70 land use is mainly vacant and undeveloped at the time of this routing study. A large block of these lands is planned for future residential uses. The Preferred Route would avoid this area.

Utilities in the study area include the existing Xcel Energy 230-kV transmission line that is proposed to be extended, other transmission lines bordering the northern and eastern boundary of the study area, and electric power distribution lines that provide lower-voltage electricity to commercial and industrial customers. Oil and gas facilities in the study area include the Blue Spruce Energy Center. The Blue Spruce Energy Center is a 265-MW natural-gas-fired power project also owned by Xcel Energy that was commissioned in May 2003 (Power Technology 2022).

5.3 Biological Resources

5.3.1 Regulatory Framework

The study area was reviewed for potential presence of special status species of wildlife and plants in accordance with the Endangered Species Act of 1973 (ESA), Bald and Golden Eagle Protection Act (BGEPA), Migratory Bird Act of 1918, and The Colorado Nongame, Endangered, or Threatened Species Conservation Act.

5.3.2 Existing Conditions

To identify the presence or potential presence of sensitive biological resources in the study area, the following data sources were reviewed:

- » Species listed as threatened or endangered under the ESA with potential to occur in or near the study area: United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (USFWS 2022a).
- » USFWS designated critical habitat for ESA-listed species (USFWS 2022b).
- » Bald eagle nests, communal roosts, roosts, and winter concentration areas: CPW Species Maps (CPW 2022).
- » Colorado Natural Heritage Program (CNHP) potential conservation areas (CNHP 2022).

Based on review of this data there are no sensitive biological resources located within the Project study area.

5.4 Water Resources

5.4.1 Regulatory Framework

The study area was reviewed in accordance with the following:

- » Clean Water Act – Section 401 Water Quality Certification.
- » Clean Water Act – Section 403 National Pollutant Discharge Elimination System Permits.
- » Clean Water Act – Section 404 Waters of the United States Permits.
- » Floodplain Protection.
 - Streams and wetlands (USFWS National Wetlands Inventory data [USFWS 2022c]).
 - 100-year floodplains (Federal Emergency Management Administration 2022).

The review of this data concludes that water resources in the study area will have minimal impact from the introduction of a new transmission line.

5.5 Visual Resources and Aesthetics

5.5.1 Regulatory Framework

Because lands in the study area are privately owned, there are no formal guidelines or policies in place to evaluate and analyze visual effects of a transmission line. However, an analysis was conducted by a visual resources specialist to determine potential visual impacts from construction of a new transmission line in the study area. A review of the Arapahoe County and Adams County Comprehensive Plans also was conducted to determine the presence of any specially designated scenic areas, scenic roads, or scenic trails in the study area that potentially could be affected visually by the construction of a new transmission line.

Visual Impacts

The effects of introducing a new transmission line in the study area are generally low due to the overall sensitivity of viewers. There are no designated scenic areas, scenic highways, scenic trails, parks, recreation, or preservation areas, or other visually sensitive areas where users may be more sensitive to changes to the landscape setting. There are no requirements, guidelines, or policies identified in local government land use codes and comprehensive plans related to the management of visual and aesthetic resources identified in the study area. Also, the construction and presence of a new transmission line would have minimal visual effects on the residential area located just south of the study area boundary.

In addition, minimal impact on visual resources and aesthetics are anticipated because the Preferred Route would be seen in the context of similar infrastructure, including transmission lines, distribution lines, and a natural gas power plant that would result in weak visual contrast. The Preferred Route is sited away from existing residential areas and areas planned for future residential uses, thus reducing the visibility and impacts of the Preferred Route's impact on these communities.

5.6 Cultural Resources

5.6.1 Regulatory Framework

The primary regulations relevant to potential cultural resources in the study area include Section 106 of the National Historic Preservation Act, Archaeological Resources Protection Act of 1979, and the Colorado Historical, Prehistorical, and Archaeological Resources Act of 1990. Because lands in the study area are privately owned; however, these laws are largely not applicable to the current Project. If a federal action constituting an undertaking as specified in Section 106 of the National Historic Preservation Act, including the use of federal land, federal funding, or the necessity to obtain a federal permit were identified, a detailed cultural resources investigation, including a formal Class I literature review and Class III pedestrian inventory, would be recommended to determine whether any previously unrecorded cultural resources are located within the proposed study area. A records search was conducted to assess potential effects to previously recorded cultural resources as described below.

5.6.2 Cultural Resources Records Search

To assess the presence and distribution of, and to determine the general distribution of cultural resources in the Project study area, several databases and maps were consulted. These included online databases for the National Register of Historic Places (NRHP), National Historic Landmarks, National Historic Trails, the Colorado Register of Historic Properties, historic General Land Office plat maps, historic aerial photographs, and USGS topographic maps. Additionally, a file search was completed through the Colorado Office of Archaeology and Historic Preservation (OAHP) as well as review of the confidential OAHP Compass online geographic information system database. These records were reviewed for areas located within one mile of the route alternatives to assess whether previously documented cultural resources are present and to cursorily assess potential Project impact on known cultural resources.

No National Historic Trails, National Historic Landmarks, or Native American reservations, sovereign lands, or tribal communities were identified in the Project study area or immediate vicinity.

The OAHP file search and Compass review identified eleven previously completed cultural resources surveys within, partially within, or crossing the Project area. These include those conducted for CDOT projects, oil and gas pipelines, and one for the Aurora History Museum.

The records review identified 16 previously documented cultural resource sites within one mile of the Project. This total includes two NRHP-eligible railroad segments (the Union Pacific and Kansas Pacific railways), one historic agricultural complex that has been determined not eligible for the NRHP, one prehistoric campsite that has been determined not eligible for the NRHP, one historical archaeology site that has been determined not eligible for the NRHP, and one historic road segment (Colfax Avenue/Highway 40) that has been determined not eligible for the NRHP. The remaining 10 sites identified in the records search have not been formally evaluated for NRHP eligibility. Most of the cultural resources that remain unevaluated for NRHP eligibility are represented by isolated finds, which typically are not considered eligible for NRHP inclusion.

There do not currently appear to be any identified cultural resources that would constitute a “critical issue” for the Project. The Project is unlikely to directly or indirectly effect the NRHP-eligible railroad segments identified within the Project area due to the presence of existing urban development near these sites.

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6.0 REFERENCES CITED

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- _____. 2006. Arapahoe County Regulations Governing Areas and Activities of State Interest in Arapahoe County. Accessed online at: <https://www.arapahoegov.com/DocumentCenter/View/345/FINALArapahoeCounty1041Regulations?bidId=>.
- City of Aurora. 2021. Unified Development Ordinance. Accessed online at: <https://aurora.municipal.codes/UDO>.
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- Colorado Parks and Wildlife. 2022. Species Maps: Bald Eagle Nest Sites, Roost Sites, Communal Roosts, Winter Concentration, Summer Forage, Winter Forage, and Winter Range; Golden Eagle Nest Sites Downloaded July 2022 from Colorado Parks & Wildlife - Google Earth (KMZ) Species Maps (state.co.us).
- Federal Emergency Management Agency (FEMA). 2022. National Flood Hazard Layer. Accessed online in July 2022 at: <https://www.fema.gov/flood-maps/national-flood-hazard-layer>.
- Power Technology. 2022. Blue Spruce Energy Center, US. Accessed online at: <https://www.power-technology.com/marketdata/blue-spruce-energy-center-us> on November 16, 2022
- United States Fish and Wildlife Service (USFWS). 2022a. Information for Planning and Consultation (IPaC) resource list for the Project study area. Accessed at: <https://ecos.fws.gov/ipac/> on July 5, 2022.
- _____. 2022b. USFWS Threatened and Endangered Species Active Critical Habitat Report. GIS data access at: <https://ecos.fws.gov/ecp/report/table/critical-habitat.html> in July 2022.
- _____. 2022c. USFWS National Wetlands Inventory (NWI) GIS data accessed at: <https://www.fws.gov/wetlands/> in July 2022.

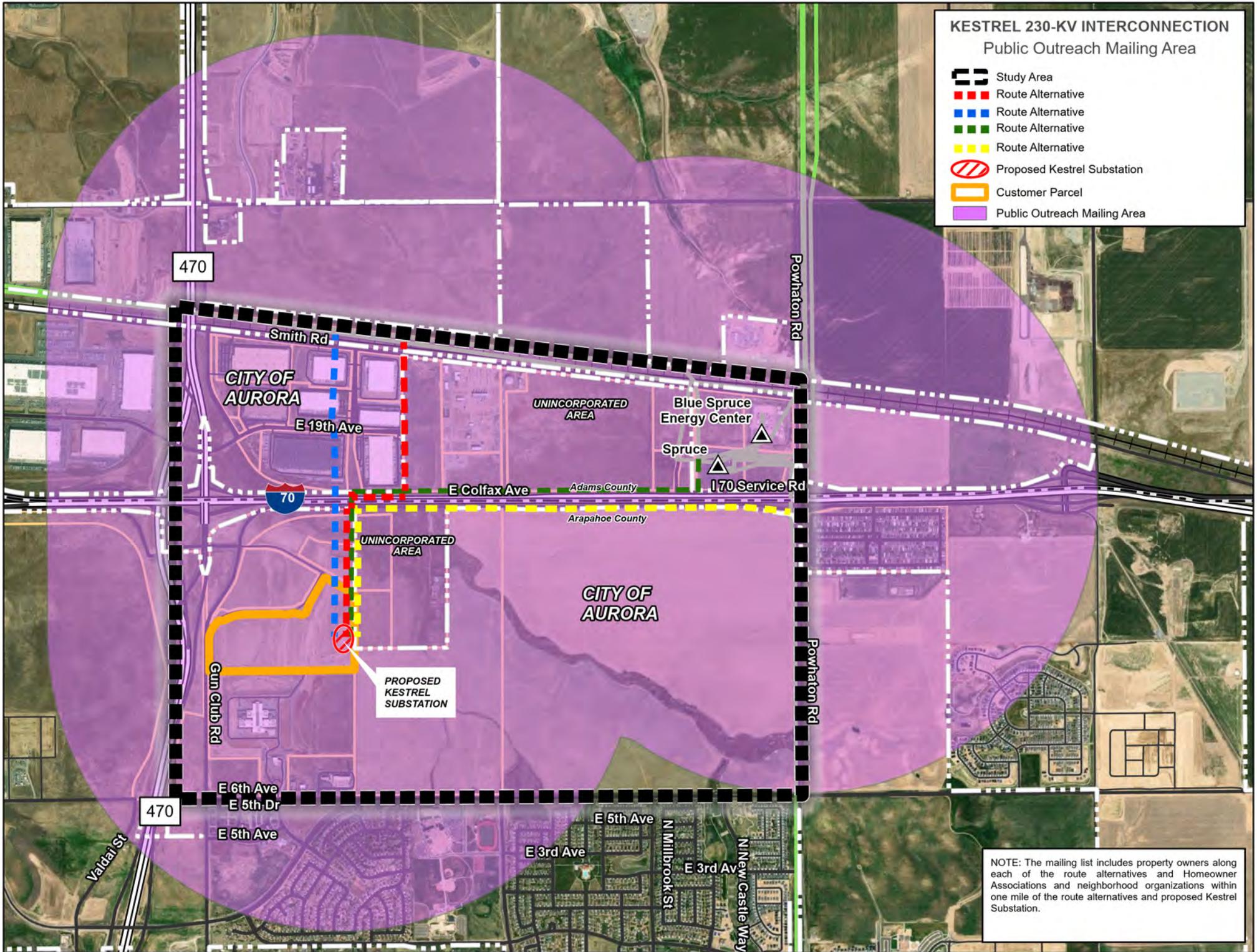
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APPENDIX A PUBLIC NOTIFICATION

APPENDIX A1 PUBLIC OUTREACH MAILING AREA

KESTREL 230-KV INTERCONNECTION
Public Outreach Mailing Area

-  Study Area
-  Route Alternative
-  Route Alternative
-  Route Alternative
-  Route Alternative
-  Proposed Kestrel Substation
-  Customer Parcel
-  Public Outreach Mailing Area



NOTE: The mailing list includes property owners along each of the route alternatives and Homeowner Associations and neighborhood organizations within one mile of the route alternatives and proposed Kestrel Substation.

APPENDIX A2 OPEN HOUSE NOTIFICATION LETTER



1800 Larimer Street
Denver, CO 80202

Landowner Name
Address
City State Zip

October 7, 2022

RE: Kestrel 230-Kilovolt Interconnection – servicing economic growth in your area

Dear Landowner:

You are invited to participate in a “meet and greet” with Xcel Energy as your property may be crossed by or located near a proposed transmission line extension. This project will be in an industrial area south of I-70 and east of Gun Club Road near the boundaries of the City of Aurora, Adams County, and Arapahoe County. The new transmission line extension will serve the long-term needs of the area, including a new data-center campus.

The Kestrel 230-Kilovolt (kV) Interconnection is a new transmission line that will provide power to the proposed Kestrel Substation at the data-center site mentioned above. The new transmission line will extend from a connection point on one of our nearby, existing 230-kV transmission lines. Xcel Energy is conducting a routing study to identify a viable route for the transmission line extension, the length of which is anticipated to be less than two miles.

To give you the opportunity to learn more about this project, **we will host an open house from 5:30 to 7:30 p.m., Tuesday, October 25, in the media center at Vista PEAK Exploratory School, 24551 East 1st Avenue, Aurora.**

At the open house, you will be able to review a map of the route alternatives being considered, learn about the opportunities for and constraints to transmission-line routing in this area, construction processes, and meet with project team members to discuss your questions.

We have enclosed a map of the study area showing the route alternatives. If you're unable to join us at the open house October 25, please visit transmission.xcelenergy.com (select Kestrel 230-kV Interconnection) for more information, contact us by email at kestrel230kvinterconnection@xcelenergy.com, or call the project information line at 303-571-7177 to leave a message.

We look forward to connecting at the event or whenever it's convenient for you.

Kind regards,

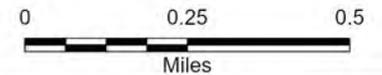
The Kestrel 230-kV Interconnection Team
Xcel Energy - Colorado

KESTREL 230-KV INTERCONNECTION

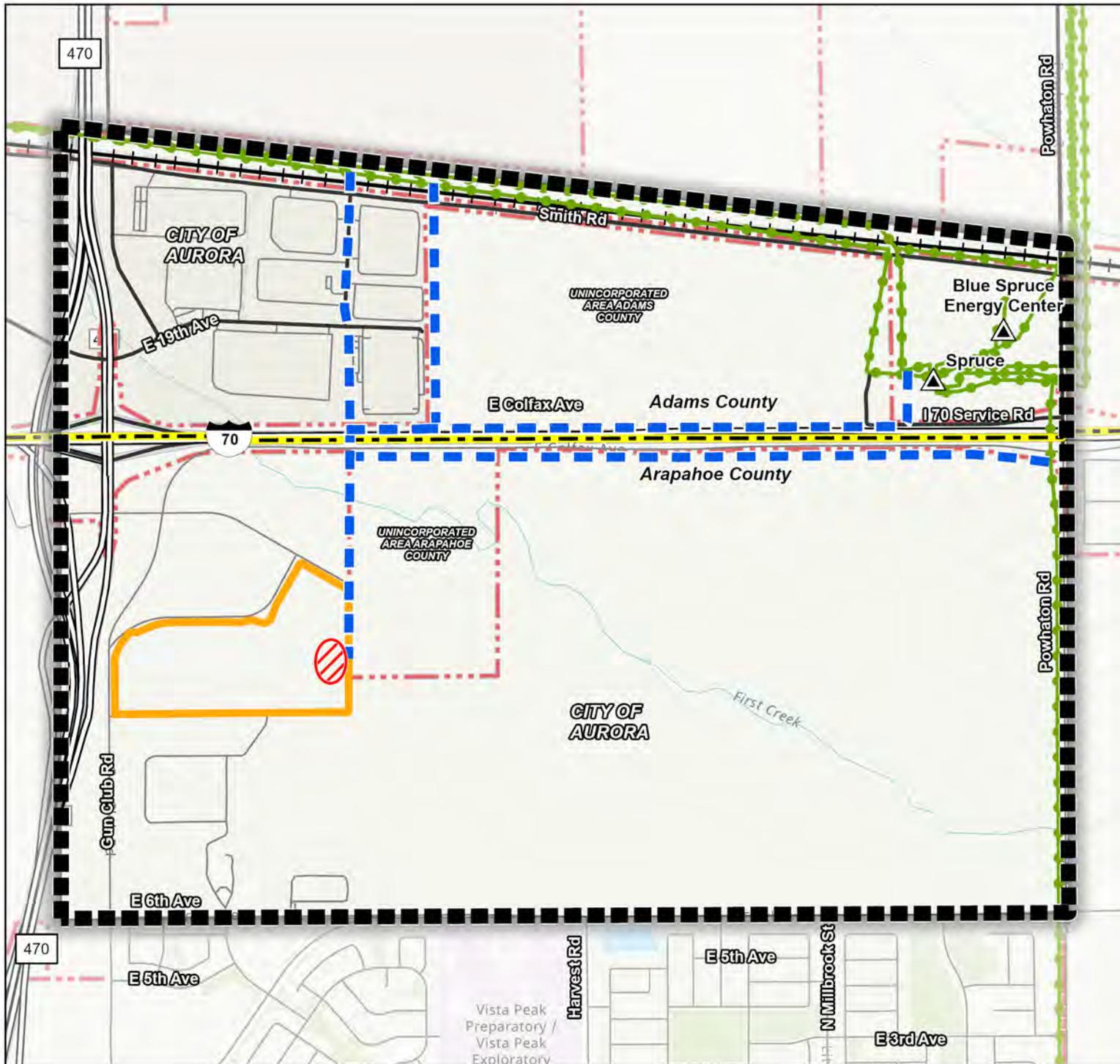
Project Features

-  Study Area
 -  Route Alternative
 -  Proposed Kestrel Substation Location
 -  Customer Parcel
- ## General Reference Features
-  Existing Substation
 -  Existing 230 kV Transmission Line
 -  Highway
 -  Major Roads
 -  Railroads
 -  City Boundary
 -  County Boundary

Project Location



Disclaimer: The information contained herein is demonstrative only, believed to be accurate and suitable for limited, internal Xcel Energy use only. Maps are not to scale. All matters depicted including but not limited to utility facilities, locations and materials are preliminary only and subject to change without notice. Xcel Energy/Public Service Company of Colorado makes no warranty as to the accuracy or suitability of any information contained herein for use by third parties for any particular purpose. The accuracy of this map and the information depicted should be verified prior to use. The user shall assume all risk and responsibility for any and all damages, including consequential damages, which may arise from the user's reliance on this information.



APPENDIX A3 MAILING LIST – PROPERTY OWNERS

NAME	ADDRESS	CITY	STATE	ZIP
Aurora Crossroads LLC	4100 E Mississippi Avenue Suite 500	Glendale	CO	80246-3053
Centurytel Fiber Company II LLC	PO Box 260888	Plano	TX	75026-0888
Cherry Owner III LLC	30 Hudson Yards FL 75	New York	NY	10001-2170
Colorado Interstate Gas Company Attn: Property Tax Department	PO Box 1087	Colorado Springs	CO	80901-1087
Cordillera Corporation	7800 E. Dorado Place Suite 250	Greenwood Village	CO	80111-2336
Current Occupant	25000 Smith Road	Aurora	CO	80019-3800
Current Occupant	24210 E. 19th Avenue	Aurora	CO	80019-3706
Current Occupant	1953 N. Gun Club Road	Aurora	CO	80019-3714
Current Occupant	1933 N. Gun Club Road	Aurora	CO	80019-3714
Current Occupant	24000 E. 19th Avenue	Aurora	CO	80019-3705
E-470 Public Highway Authority	22470 E. Stephen D Hogan Pkwy	Aurora	CO	80018-2423
East Cherry Creek Valley Water and Sanitation District	6201 S. Gun Club Road	Aurora	CO	80016-2606
Foxridge Mobile Home Park Associates LLC	PO Box 800729	Dallas	TX	75380-0729
Furniture Row Colorado LLC	5651 Broadway	Denver	CO	80216-1021
Grimm Farms LLC	1280 Fairfax Street	Denver	CO	80220-2525
Gun Club Road Properties LLC C/O Niagara Bottling LLC	1440 Bridgegate Drive	Diamond Bar	CA	91765-3932
JP Morgan Chase Bank	8111 Preston Road Suite 200	Dallas	TX	75225-6361
O'Reilly Auto Enterprises LLC	PO Box 9167	Springfield	MO	65801-9167
Property Reserve Inc.	PO Box 511196	Salt Lake City	UT	84151-1196
Sisters Charity Leavenworth Health System Inc.	500 Eldorado Blvd. Suite 4300	Broomfield	CO	80021-3564
Wei-Yi Chang	12550 Rosy Circle	Los Angeles	CA	90066-6927
Adonea Metropolitan District 2 Homeowner's Association	25858 E. Canal Place	Aurora	CO	80018-1627
Aurora at Cross Creek- Colorado Property Management Group	2621 S. Parker Road Suite 105	Aurora	CO	80014-1617
Cross Creek Homeowner's Association	445 N. Flat Rock Street	Aurora	CO	80018-1627
Foxridge Mobile Home Park Community Manager	26900 E Colfax Avenue	Aurora	CO	80018-1627
Gun Club Estates Homeowner's Association	980 S Gun Club Road	Aurora	CO	80018-1627
Majestic Commercenter II	20100 E. 32nd Pkwy #150	Aurora	CO	80011-8176
Prologos Park 70	4545 Airport Way	Denver	CO	80239-5716
Thunderbird Estates Homeowner's Association	177 Grandby Circle	Aurora	CO	80018-1627
Traditions Neighborhood	15151 E. Alameda Pkwy	Aurora	CO	80012-1555

APPENDIX A4 MAILING LIST – REGISTERED HOMEOWNER ASSOCIATIONS AND NEIGHBORHOOD ORGANIZATIONS

Level	Organization	Category/Related Organization
HOA	Adonea Metropolitan District 2	Neighborhood Association
Other	Aurora Public School Educational Campus	Educational Campus
Other	Aurora Highlands	Real Estate Developer
Property Assoc.	Aurora at Cross Creek	The Colorado Property Management Group, Inc.
HOA	Cross Creek HOA	Neighborhood Association
Interested Party	E-470 Neighbors	From Aurora Shapefile Data
Mobile Park	Foxridge Farm	Ascentia Real Estate Holding Company
HOA	Gun Club Estates	Homeowners Association
Registered Organization	House of Pain East (HOPE)	From City of Aurora Shapefile Data: Fitness Center
Other	Majestic Commercenter II	Business Park
Registered Organization	Prologis Park 70	Distribution Facilities
NBRHD ASSOC	Sky Ranch Community Authority	Neighborhood Association
Registered Organization	The Ex-Nihilo Foundation LTD	From City of Aurora Shapefile Data
HOA	Thunderbird Estates	Neighborhood Association
Interested Party	Traditions Neighborhood	Neighborhood

APPENDIX B PUBLIC OPEN HOUSE MATERIALS

APPENDIX B1 PROJECT FACT SHEET

KESTREL 230-KILOVOLT INTERCONNECTION

INFORMATION SHEET
COLORADO

FALL 2022 UPDATE



Xcel Energy is proposing to extend an existing 230-kilovolt (kV) electric transmission line to connect and serve a new customer in the City of Aurora in Adams and Arapahoe counties.

The proposed 230-kV interconnector line, anticipated to be less than two miles long, would be in an industrial area south of Interstate 70 and east of Gun Club Road. The new transmission line will connect with a nearby existing Xcel Energy 230-kV transmission line and extend to our proposed Kestrel Substation at the customer's facility—a planned 80-acre data-center campus.

Xcel Energy is conducting a routing study – a process to examine and evaluate preliminary route alternatives to identify a viable transmission line route that minimizes community and environmental impacts while meeting engineering and safety standards and customer needs.

Xcel Energy is more than an energy provider—we're a committed partner, helping businesses meet their unique needs. Our commitment to economic development will enable this large company to locate its first facility in Colorado, supporting community growth with full-time, high paying jobs, and environmental benefits from the customer's pledge to use clean, carbon-free energy sources.

We anticipate the permit application process for the new transmission line location will begin in fall 2022 with construction taking place in 2023 and 2024.

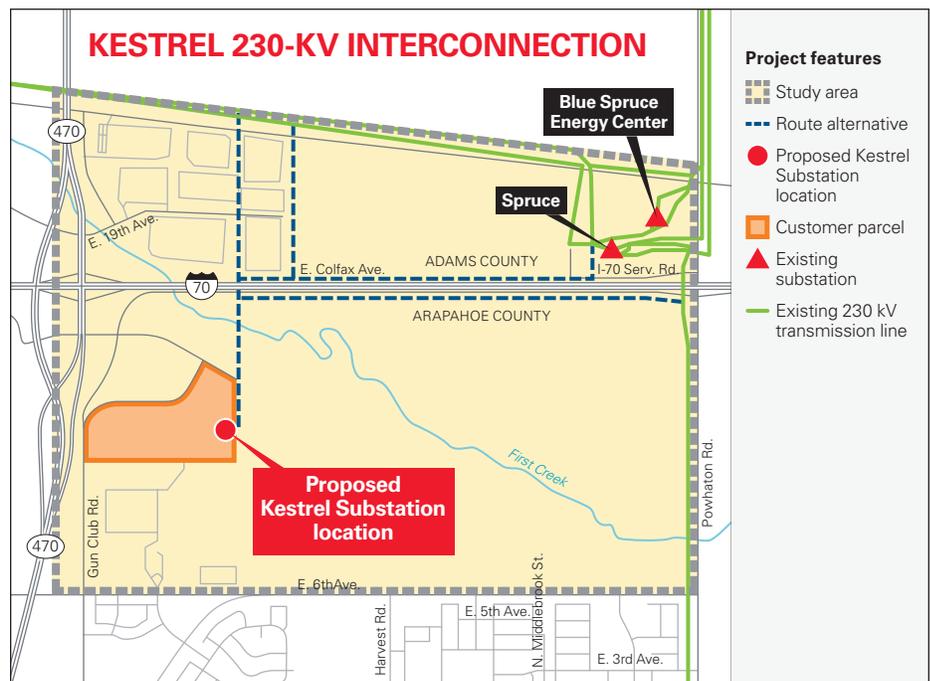
Project overview:

- Serve new customer developing a data-center campus
- Conduct transmission line routing study
- Build new 230-kV steel, single-pole, double-circuit transmission interconnection
- Build new Kestrel Substation at the data-center campus
- Position region for economic growth
- Create full-time jobs

Next steps

- Routing study: Fall 2022
- Community open house and meetings with local officials: Fall 2022
- Route selection: Fall 2022
- Permitting: Fall 2022 - Winter 2023
- Construction: 2023-2024
- In service: Late 2024

(Schedule subject to change.)



transmission.xcelenergy.com (select Kestrel 230-kV Interconnection)
303-571-7177
Kestrel230KVInterconnection@xcelenergy.com

APPENDIX B2 OPEN HOUSE DISPLAY BOARDS



KESTREL 230-KILOVOLT INTERCONNECTION

WELCOME!

Thank you for attending this open house hosted by Xcel Energy. Your questions and comments are important to us. We look forward to visiting with you.

About the project...

- Xcel Energy proposes to extend an existing 230-kilovolt (kV) transmission line to connect and serve a new industrial customer in Aurora in Adams and Arapahoe counties.
- The new transmission-line extension will connect with a nearby existing Xcel Energy transmission line and extend to the proposed Kestrel Substation at the customer's facility – a planned 80-acre data-center campus.
- Xcel Energy is committed to working with residents, landowners, officials and other stakeholders in completing the Kestrel 230-kV Interconnection.



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Information line 303-571-7177 to leave a message • kestrel230kvinterconnection@xcelenergy.com

Benefits

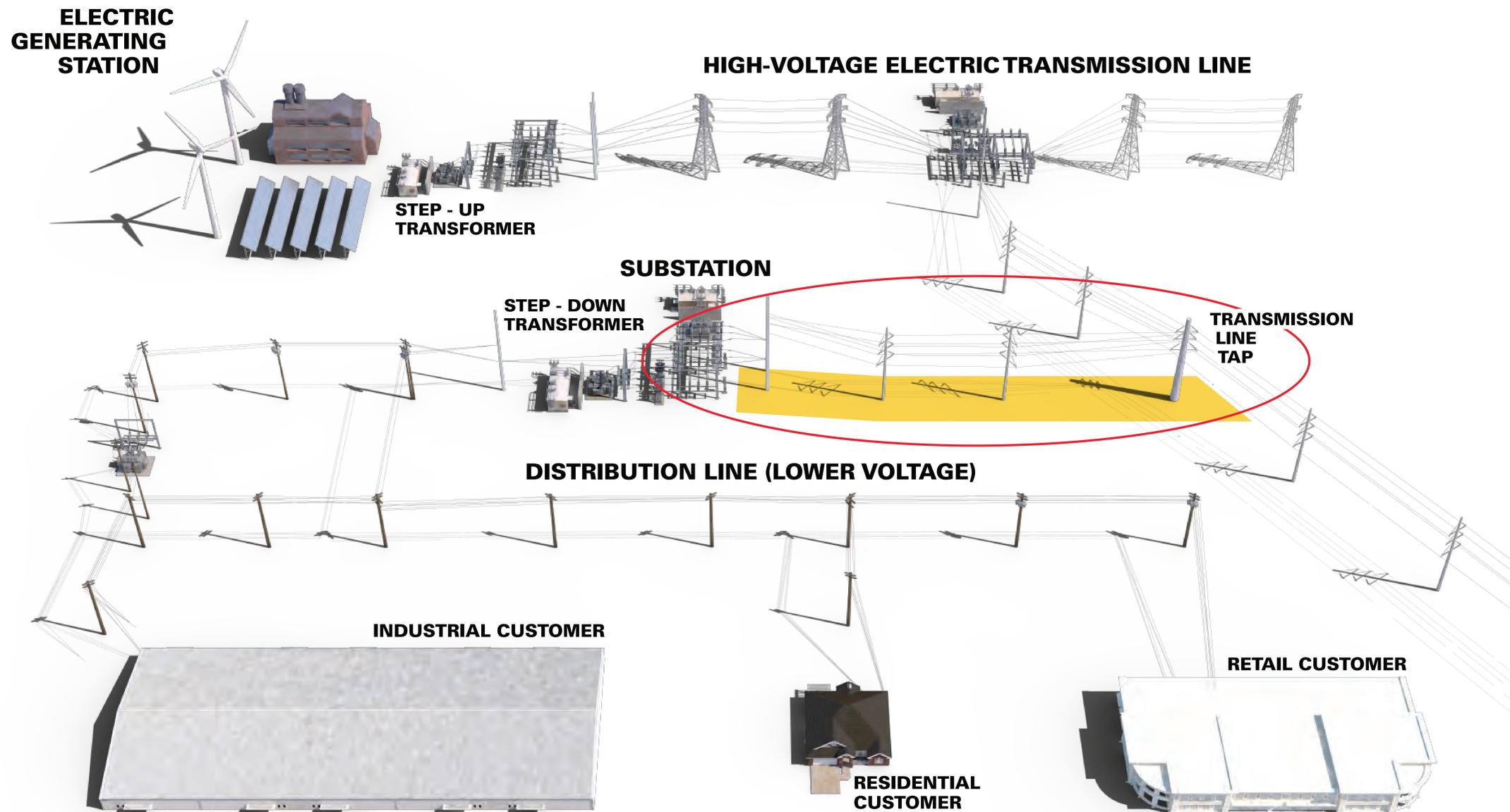
The proposed transmission interconnection will enable a large company to locate its first facility in Colorado, supporting economic and environmental benefits:

- **Large customer/revenue:** Data center will be one of the largest customers in Xcel Energy's Colorado system. It's expected to create at least 50 full-time, high-paying jobs and an estimated \$1.1 billion in capital investment.
- **Support clean energy:** Customer's sustainability plan includes commitment to procure 100% of its electric load from clean, carbon-free sources by 2025.
- **Help communities succeed:** Xcel Energy is more than an energy provider – we're a committed partner. We help businesses meet their unique needs while driving toward a clean-energy future for everyone.



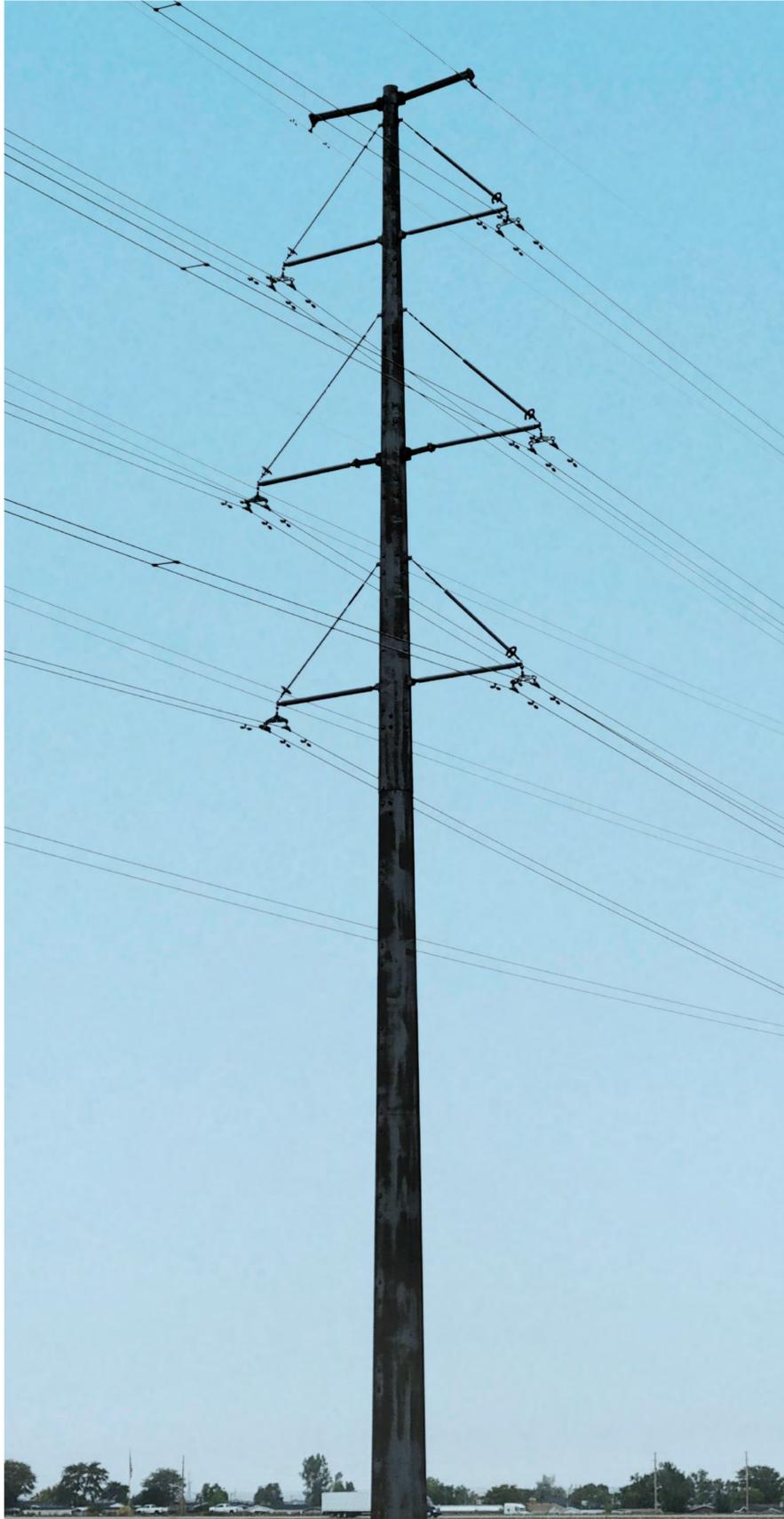
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Electricity: From the Generating Source to the Customer



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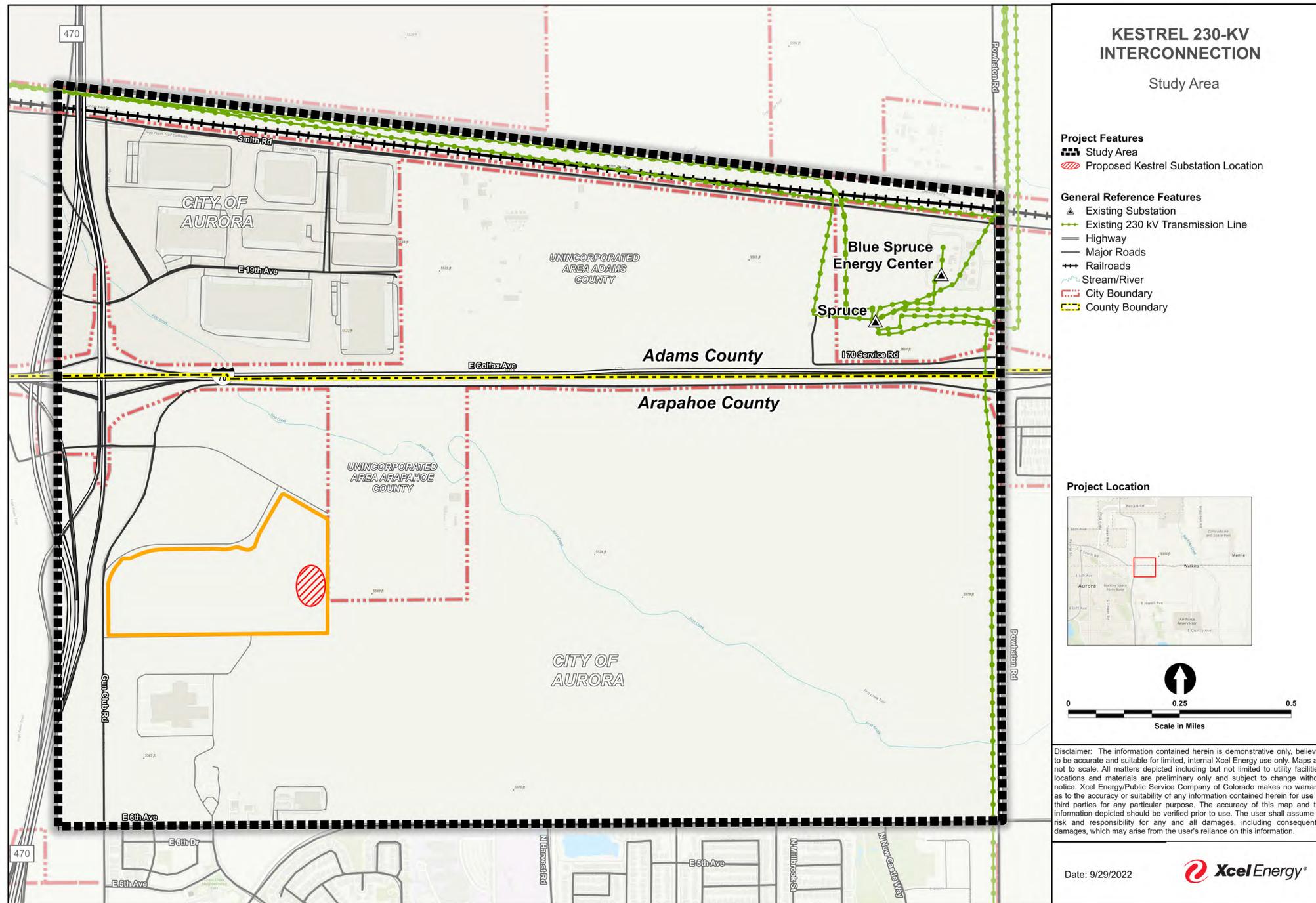
Proposed Transmission Structure



- Type: Steel, single-pole, double-circuit structures
- Voltage: 230-kV
- Typical span between structures: 800 to 1,000 feet, or 6 to 7 structures per mile
- Typical height: 80 to 130 feet
- Typical pole diameter at base: 4 to 8 feet
- Easement: 100 feet wide
- Length: Less than two miles

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Study Area



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Routing Study

Xcel Energy is conducting a study to examine and evaluate route alternatives to identify a viable route that minimizes community and environmental impacts while meeting engineering and safety standards as well as customer needs.

The study addresses opportunities for and constraints to routing the transmission-line extension.

Opportunities:

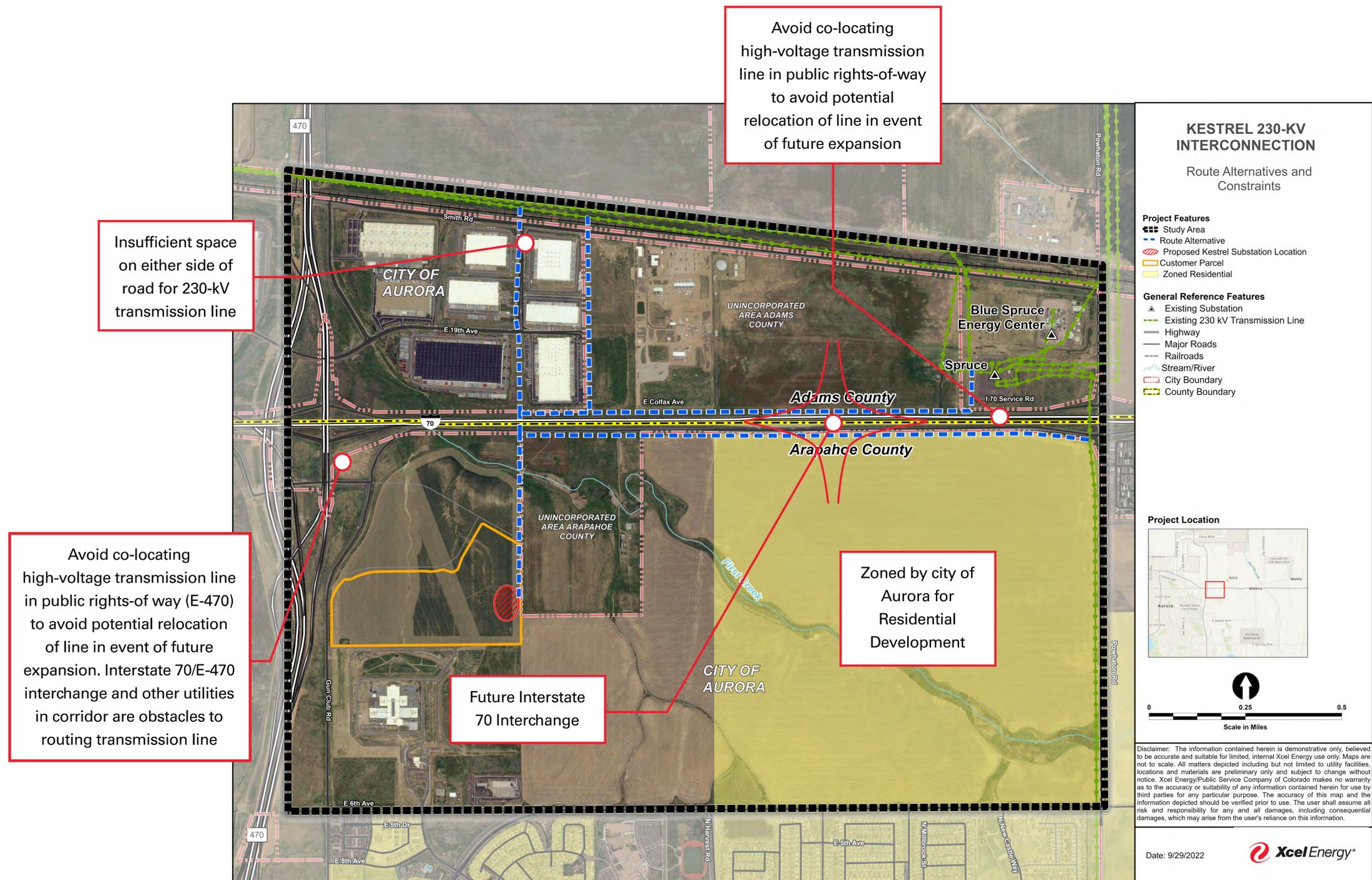
- Industrial area
- Vacant and/or undeveloped lands without specific future development plans
- Parallel existing compatible linear facilities
- Parallel property lines
- Maximize use of existing access

Constraints:

- Existing residences and/or planned residential communities
- Schools
- Developed parks, recreation areas, and community open space
- Wetlands and riparian areas
- Known archaeological and historic properties

transmission.xcelenergy.com (select Kestrel 230-kV Interconnection)
Information line 303-571-7177 to leave a message • kestrel230kvinterconnection@xcelenergy.com

Route Alternatives and Constraints



transmission.xcelenergy.com (select Kestrel 230-kV Interconnection)
Information line 303-571-7177 to leave a message • kestrel230kvinterconnection@xcelenergy.com

Anticipated Schedule

Routing Study	Summer/Fall 2022
Open House	Fall 2022
Route Selection	Fall 2022
Permitting	Fall 2022-2023
Construction	2023-2024
In Service	Late 2024

Potential Permits/ Authorizations/Approvals

- City of Aurora
- Adams County
- Arapahoe County
- Union Pacific Railroad crossing permit
- Colorado DOT crossing permit
- Federal Aviation Administration review

transmission.xcelenergy.com (select Kestrel 230-kV Interconnection)
Information line 303-571-7177 to leave a message • kestrel230kvinterconnection@xcelenergy.com



APPENDIX B3 COMMENT FORM



1800 Larimer Street, Suite 400
Denver, CO 80202



**Kestrel 230-kV Interconnection Team
Siting and Land Rights
1800 Larimer Street, Suite 400
Denver, CO 80202**

THANK YOU FOR TAKING THE TIME TO PARTICIPATE!

Submit your comments by:

- Leaving this completed form at the public open house
- Mail the completed form or a letter to the address above
- Submit comments postmarked by November 11, 2022
- Learn more about the project and/or leave comments at *transmission.xcelenergy.com (select Kestrel 230-kV interconnection project)*
- *Email kestrel230kvinterconnection@xcelenergy.com or call 303-571-7177 to leave a message*

PLEASE TELL US HOW TO REACH YOU

Contact Information

Name _____

Representing (optional) _____

Address _____ City _____ State _____ Zip _____

E-mail _____ Phone _____

Fold this form letter-style if you choose to mail it without an envelope.
Make sure that your contact information is facing inward and affix postage when mailing.

APPENDIX B4 OPEN HOUSE SIGN-IN SHEET

KESTREL 230-KV INTERCONNECTION

OPEN HOUSE
OCTOBER 25, 2022



NAME	MAILING ADDRESS	EMAIL ADDRESS (TO BE ADDED TO THE MAILING LIST)	ADD TO MAILING LIST (Y OR N)
Art Belz	1331 17th Street, #604 Denver, CO 80202	arthur.belz@uproperties.com	Y
DIANA RAEI	1101 BANNOCK ST. DENVER, CO. 80210	NORRIS DESIGN. draei@norris-design.com	y.
Mike Pietschmann	1500 W. Canal CT Littleton, CO 80120	mpietschmann@ redland.com	Y
Mark Cevaag	1500 W. Canal Ct. Littleton CO 80120	mcevaag@redland.com	Y
Jonathan Woodward Aurora EDC			N
Dane Hill Jace McQuinn	51 S main suite 301, Salt lake city, UT 84111	Dhill@frpdc.com	U
Jerry Sattler	1933 N Gun Club Rd	jsattler@niagarawater.com	Y
Jason Reynolds	6924 S Lima St Centennial CO 80112	jreynolds@arapahoe.gov.com	y

APPENDIX C ROUTE ALTERNATIVES COMPARISON TABLE

XCEL ENERGY PROJECT BRONCO
ALTERNATIVE ROUTE FEASIBILITY COMPARISON
Draft 7/29/2022; revised 9/13/2022

Route	System Planning and Engineering Design Factors					Environmental Factors			Jurisdictions, Agencies, Permit Requirements				Feasibility Level		Ranking
	Approximate Length (miles)	Parallel Conditions (miles)	Land Acquisition	Constructability (Potential Engineering/ Construction Issues)	Estimated Construction Cost ¹	Biological and Water Resources	Land Use	Visual	Private	Federal/State	County	Incorporated Cities and/or Towns	Engineering	Environmental	
Smith Road East (Links 10, 15, 50, 60)	1.2	0.2 mile: Parallels north side of Colfax Avenue and I-70	<ul style="list-style-type: none"> CDOT crossing, estimate approximately 18 months once route is selected to permit. Need to secure private land easement(s) for the transmission line, and potentially permanent access easements. Once a route is selected, estimate approximately 12 months to secure easements. Union Pacific Railroad crossing. Estimate 12 months to secure railroad-crossing permit. Also, likely a need to secure temporary land rights for construction, estimate 6 to 12 months to secure temp land rights. 	<ul style="list-style-type: none"> Link 10: Engineering to determine if connection location to existing line will require removal of nearby structure and associated height impacts to new structure. Buried utilities and street lighting are potential obstacles to structure micro-siting. Link 15: Team to review desired location in relation to ditches and DOT ROW. Link 50: Likely dead-end structure on each side of the interstate crossing to reduce impact on traffic during construction Link 60: No engineering concerns. FAA filing review required due to proximity to Buckley AFB/SFB. Could affect structure heights and costs due to marking and lighting. Potential schedule impact. 	\$3.8M	<ul style="list-style-type: none"> No biological constraints. One crossing of an intermittent stream (First Creek) can be easily spanned. One crossing of a 100-year floodplain (along First Creek), of approximately 600 feet. 	<ul style="list-style-type: none"> Link 10: Crosses Union Pacific Railroad. Link 50: Crosses I-70. Link 60: Crosses approximately 260 feet of lands designated as urban green space³ Link 60: Borders lands designated as urban center⁴. Links 10, 15, 50, and 60: Links in proximity (approximately 2.8 miles) to airspace associated with Buckley Space Force Base. 	<ul style="list-style-type: none"> Viewed in foreground from I-70: crosses and parallels for 0.2 mile. 	Union Pacific Railroad	CDOT	Adams Arapahoe	Aurora	High	High	High
Smith Road West (Link 30, 50, 60)	1.0	NA	<ul style="list-style-type: none"> CDOT crossing, estimate approximately 18 months once route is selected to permit this. Need to secure private land easement(s) for the transmission line, and potentially permanent access easements. Once a route is selected, estimate approximately 12 months to secure easements. Union Pacific Railroad crossing. Estimate 12 months to secure railroad-crossing permit. Also, likely a need to secure temporary land rights for construction, estimate -to 12 months to secure temp land rights. Anticipate damage payments, especially where route is proposed north of East 19th Avenue west of Gun Club Road where industrial facilities exist (landscaping, sidewalks, parking). 	<ul style="list-style-type: none"> Link 30: Engineering to determine if connection location to existing line will require removal of nearby structure and associated height impacts to new structure. Buried utilities and street lighting are potential obstacles to structure micro-siting. Street lighting could potentially impact structure design (taller?) Lane impacts for construction. Link 50: Likely dead-end structure on each side of the interstate crossing to reduce impact to traffic during construction. Link 60: No engineering concerns. FAA filing review required due to proximity to Buckley AFB/SFB. Could affect structure heights and costs due to marking and lighting. Potential Schedule impact. Insufficient space to transmission line on either east or west side of road near industrial buildings for DC line. 	\$3.2M	<ul style="list-style-type: none"> No biological constraints. One crossing of an intermittent stream (First Creek) can be easily spanned. One crossing of a 100-year floodplain (along First Creek), of approximately 600 feet. 	<ul style="list-style-type: none"> Link 30: Crosses Union Pacific Railroad. Link 50: Crosses I-70. Link 60: Crosses approximately 260 feet of lands designated as urban green space³ Link 60: Borders lands designated as urban center⁴. Links 30, 50, and 60: Links in proximity (approximately 2.8 miles) to airspace associated with Buckley Space Force Base. 	<ul style="list-style-type: none"> Viewed in foreground from I-70 highway at crossing. 	Union Pacific Railroad	CDOT	Adams Arapahoe	Aurora	Low	High	Mod.

Gun Club Road (Link 40)	1.6	0.1 mile: Parallels Gun Club Road 1.0 mile: Parallels E-470	<ul style="list-style-type: none"> As standard practice, PSCo does not prefer to co-locate high voltage transmission lines in public rights-of-way. There is risk – PSCo does not control future expansion of public rights-of-way, which increase likelihood of relocating, which is costly. These costs typically are passed on to customers, which is a burden. If decision is made to move forward with this route, anticipate a lengthy and complicated process with CDOT. Union Pacific railroad crossing. Estimate 12 months to secure railroad-crossing permit. 	<ul style="list-style-type: none"> Link 40: Likely dead-end structure on each side of the interstate to reduce impact to traffic during construction. Area not included in LiDAR survey request. Survey would be required. Engineering to determine if connection location to existing line will require removal of nearby structure and associated height impacts to new structure. Buried utilities are potential obstacles to structure micro-siting. Streetlight and traffic light aerial obstacles could impact structure design and micro-siting. Coordination required for structure siting on customer property. Lane impacts for construction. FAA filing review required due to proximity to Buckley AFB/SFB. Could impact structure heights and costs due to marking and lighting. Potential Schedule impact. 	\$5.1M	<ul style="list-style-type: none"> No biological constraints. One crossing of an intermittent stream (First Creek) can be easily spanned. For approximately 3,000 feet, this route is more or less in or along the edge of the 100-year floodplain of First Creek. 	<ul style="list-style-type: none"> Located in highway rights-of-way (E-470, I-70) (coordination with CDOT may be complicated). Crosses I-70 and I-70/E-470 interchange. Crosses Union Pacific Railroad. Crosses lands designated as urban center⁴. In proximity (approximately 1.8 miles) to airspace associated with Buckley Space Force Base. 	<ul style="list-style-type: none"> Viewed in foreground from I-70 highway crossing at interchange and parallels Hwy E-470 and Gun Club Road. Highest volume of viewers and overall visibility. Viewed in middle-ground from residential area located to the south. 	Union Pacific Railroad	CDOT	Adams Arapahoe	Aurora	Low	Low	Low
Colfax Avenue South (Links 20, 60)	1.9	1.5 miles: Parallels south side of Colfax Avenue and I-70	<ul style="list-style-type: none"> As standard practice, PSCo does not prefer to co-locate high voltage transmission lines in public rights-of-way. There is risk – PSCo does not control future expansion of public rights-of-way, which increase likelihood of relocating, which is costly. These costs typically are passed on to customers, which is a burden. If decision is made to move forward with this route, anticipate a lengthy and complicated process with CDOT. LDS property: believe they have development plans and there are complexities negotiating with LDS. Securing land rights on this property is not preferred. POWER Engineers provided a Transportation Framework map (from the Comprehensive Plan for the City of Aurora, Oct 2018) showing a future freeway interchange in this area. CDOT could require relocation of facilities if/when the interchange takes place. 	<ul style="list-style-type: none"> Link 20: Existing overhead electric line in the same location. Lines could be co-located or could be designed to avoid existing lines. Structure and easement cost implications. Engineering to determine if connection location to existing line will require removal of nearby structure and associated height impacts to new structure. Lane impacts for construction. Link 60: No engineering concerns. FAA filing review required due to proximity to Buckley AFB/SFB. Could impact structure heights and costs due to marking and lighting. Potential schedule impact. Significant traffic control required for construction 	\$6.0M	<ul style="list-style-type: none"> No biological constraints. One crossing of an intermittent stream (First Creek) can be easily spanned. One crossing of a 100-year floodplain (along First Creek), of approximately 600 feet. 	<ul style="list-style-type: none"> Link 20: Borders area zoned for residential development by City of Aurora. Link 20: Borders area designated as urban center⁴. Only route that doesn't require crossing of I-70. Links 20 and 60: Link in proximity (within 4.0 miles) to airspace associated with Buckley Space Force Base. 	<ul style="list-style-type: none"> Viewed from existing and planned residential areas in foreground to the east. Viewed from I-70 greatest distance; crosses and parallels for 1.5 miles Existing transmission lines in viewshed from existing and planned residential and I-70. 		CDOT	Arapahoe	Aurora	Mod	Low	Mod
Colfax Avenue North (Link 5, 15, 50, 60)	1.8	1.2 miles: Parallels north side of I-70	<ul style="list-style-type: none"> As standard practice, PSCo does not prefer to co-locate high-voltage transmission lines in public rights-of-way. There is risk – PSCo does not control future expansion of public rights-of-way, which increase likelihood of relocating, which is costly. These 	<ul style="list-style-type: none"> Link 5: Connection location to existing line will require removal of existing structure. Team to review desired location in relation to ditches and CDOT right-of-way. Link 15: Team to review desired location in relation to ditches and CDOT right-of-way. 	\$5.7M	<ul style="list-style-type: none"> No biological constraints. One crossing of an intermittent stream (First Creek) can be easily spanned. One crossing of a 100-year floodplain (along First 	<ul style="list-style-type: none"> Link 50: Crosses I-70 Links 5, 15, 50 and 60: Links in proximity (within 4.0 miles) to airspace associated with Buckley Space Force Base. 	<ul style="list-style-type: none"> Viewed in foreground from I-70: crosses and parallels for 1.2 mile. Existing transmission lines in viewshed from existing and planned residential and I-70. 		CDOT	Adams	Aurora	Mod-low	Mod	Mod

			<p>costs are typically passed on to customers, which is a burden. If decision is made to move forward with this route, anticipate a lengthy and complicated process with CDOT.</p> <ul style="list-style-type: none"> • CDOT crossing, estimate approximately 18 months once route is selected to permit this. 	<ul style="list-style-type: none"> • Link 50: Likely dead-end structure on each side of the interstate crossing to reduce impact on traffic during construction. • Link 60: No engineering concerns. • FAA filing review to be required due to proximity to Buckley AFB/SFB. Could impact structure heights and costs due to marking and lighting. Potential Schedule impact. • May have to move structures if road and/or highway widened in future. 		Creek), of approximately 600 feet.												
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NOTES:
¹The estimated material and construction costs for the alternative routes are to be used for comparative purposes only and is not representative of actual cost of the alternative routes.
²Sensitivity:
* Cultural resources are not included in this table as no cultural resources do not represent a determining factor in the ranking of alternative routes based on the current suite of resources assessed. Regardless of the route selected for the transmission line, a pedestrian survey will need to be conducted for those areas not previously surveyed. The inventory will identify cultural resources, evaluate their eligibility to the National Register of Historic Places, and assess the potential for the project to adversely affect those properties that are eligible. Mitigation measures will need to be developed for those resources that will be adversely affected and these measures will be detailed in a cultural resources report. [Wording will be revised as appropriate.]
³ Urban green space has been designated through the City of Aurora Comprehensive Plan. Area is not yet zoned for this use.
⁴ Urban centers have been designated through the City of Aurora Comprehensive Plan. Area is not yet zoned for this use.
KMZ dated 8/5/2022 used by team to populate content of this table.

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