KENTUCKY POWER℠

An AEP Company

BOUNDLESS ENERGY℠

GARRETT AREA

TRANSMISSION LINE PROJECT

WELCOME TO OUR VIRTUAL OPEN HOUSE

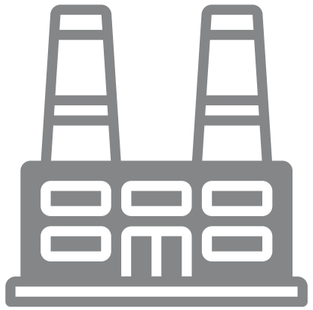
As a result of the COVID-19 pandemic and social distancing recommendations made by the Centers for Disease Control and Prevention (CDC), AEP Ohio invites you to attend this virtual open house in order to minimize in-person contact. AEP Ohio remains committed to listening to your concerns and answering your questions, but we are also committed to keeping our customers and employees safe and healthy. We welcome your feedback via telephone and email as we strive to make the most informed decisions possible.

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HOW THE SYSTEM WORKS

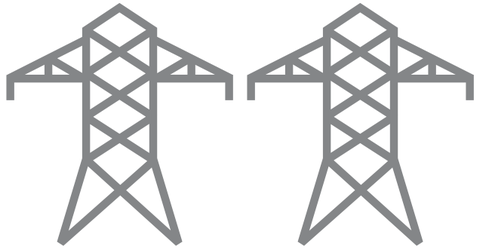
HIGH VOLTAGE

LOCAL TRANSMISSION >>



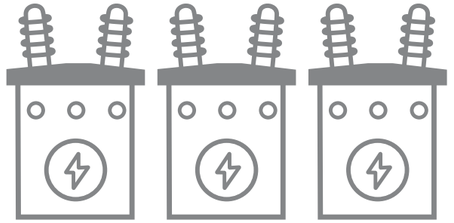
1) GENERATION STATIONS

Kentucky Power produces electricity at coal, natural gas, nuclear, wind and hydro-electric power stations and then transports it long distances over transmission lines.



2) EHV TRANSMISSION

Extra High Voltage (EHV) electric transmission lines are generally 765 kilovolt (kV), 500 kV, and 345 kV on Kentucky Power's system.



3) SUBSTATIONS

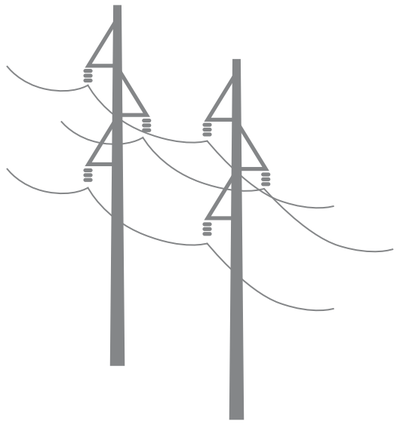
Substations direct the flow of electricity and either decrease or increase voltage levels for transport.

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HOW THE SYSTEM WORKS

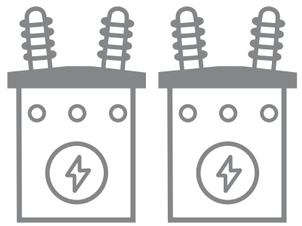
LOCAL TRANSMISSION

DISTRIBUTION >>



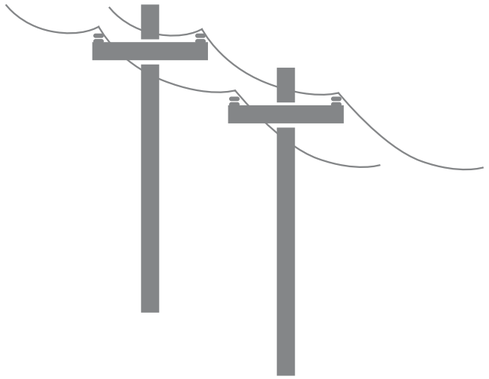
4) LOCAL TRANSMISSION

Kentucky Power typically uses 69 kV and 138 kV transmission lines to move power shorter distances—for example, to different parts of a city or county.



5) SUBSTATION

Substations transform 69 kV and 138 kV electricity into lower distribution level voltages such as 34.5 kV, 12 kV, or 7.2 kV.



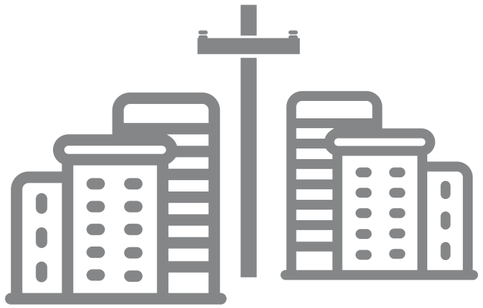
6) PRIMARY DISTRIBUTION

These main lines (also called circuits) connect substations to large parts of the community.

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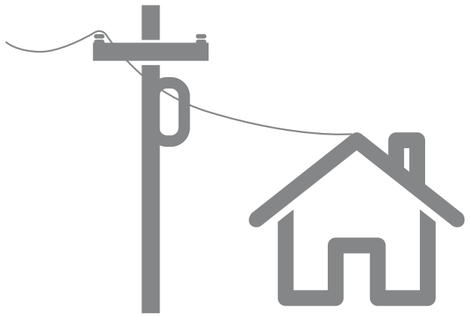
HOW THE SYSTEM WORKS

DISTRIBUTION



7) LATERAL DISTRIBUTION

These smaller capacity lines deliver electricity to neighborhoods and other smaller groups of customers.



8) INDIVIDUAL SERVICE

Smaller transformers step down voltage to levels customers can use. Individual residences typically use 120/240 volts.

TO USE AN ANALOGY, ELECTRIC TRANSMISSION IS SIMILAR TO OUR NATIONAL ROAD SYSTEM. THREE KINDS OF POWER LINES EXIST BETWEEN POWER PLANTS AND HOMES AND BUSINESSES:

- Extra-high Voltage (EHV) lines are like electrical interstate highways.
- High-voltage local transmission lines are like four-lane roads.
- Distribution lines are like two-lane roads that eventually connect to your driveway.

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PROJECT NEED

WHY IS THE PROJECT IMPORTANT TO OUR COMMUNITY?

MODERN EQUIPMENT

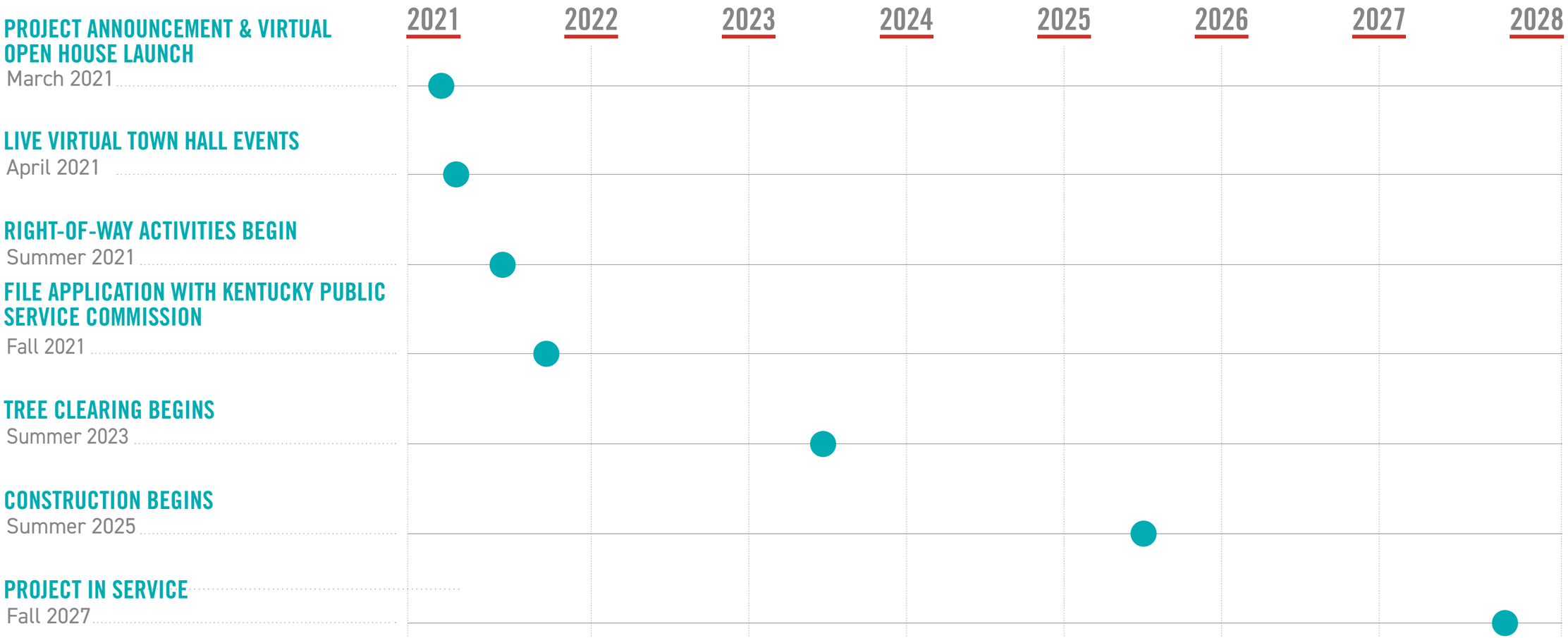
This project allows crews to retire approximately 25 miles of transmission line that includes deteriorating wooden poles from the 1920s and 1940s. The existing line has experienced multiple power outages in recent years.

IMPROVED RELIABILITY

The proposed power grid upgrades help to strengthen the local electric system and increase electric reliability for area customers.

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PROJECT SCHEDULE

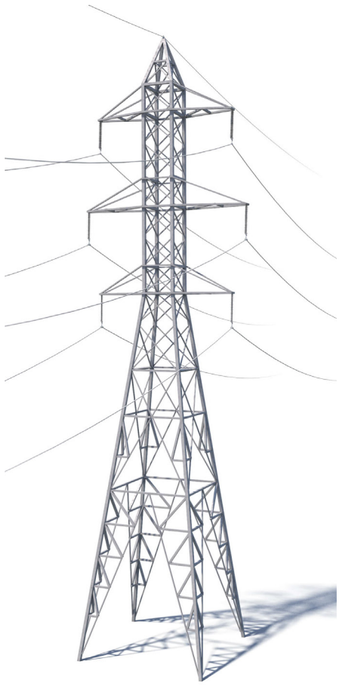


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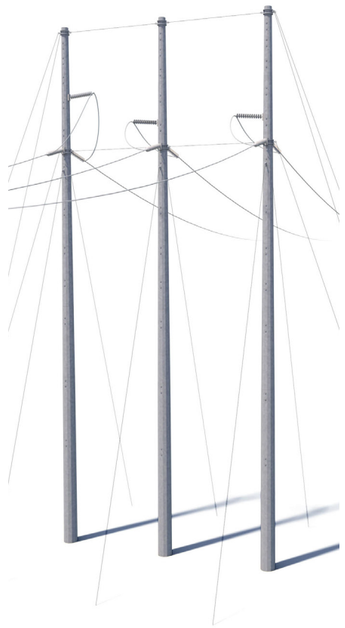
PROPOSED STRUCTURES



H-FRAME



LATTICE TOWER



THREE-POLE STRUCTURES

*Exact structure, height and right-of-way requirements may vary

Crews plan to build the transmission line using a combination of structures such as steel H-frame poles, lattice towers and three-pole structures.

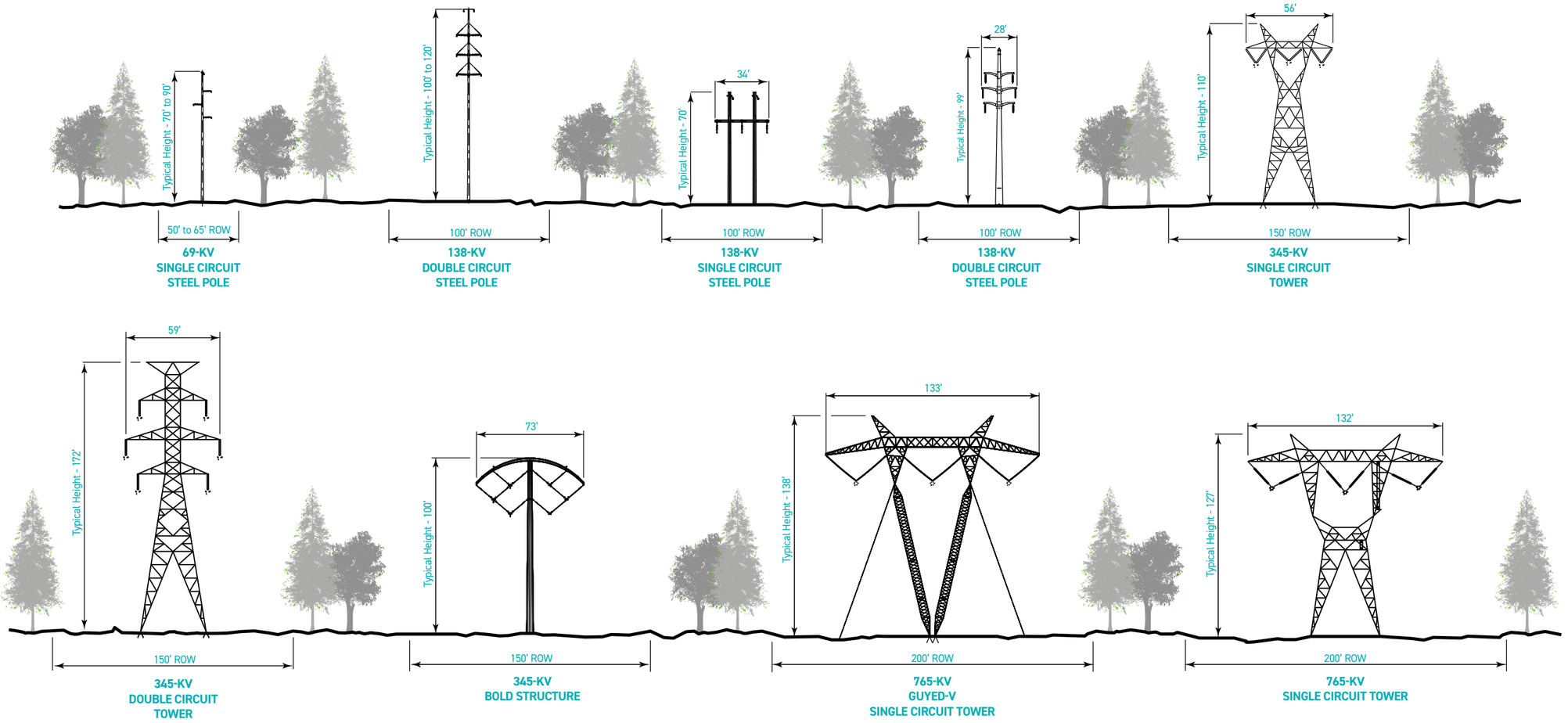
Structure Height: Approx. 85 feet*
Right-of-Way Width: Approx. 100 feet*

At Kentucky Power, we are committed to meeting the energy needs of customers while protecting the environment and natural beauty of the region.

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STRUCTURE COMPARISON

Typical structure heights are based upon voltage and configuration. Structures are not to scale but are shown in proportion to each other. Actual heights will vary depending on terrain.



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RIGHT-OF-WAY

KENTUCKY POWER HAS TWO KEY PHILOSOPHIES THAT PERTAIN TO POWER LINE RIGHTS-OF-WAY:



1 Routes should cause the least possible disturbance to people and the environment.



2 Property owners should be fairly compensated for any land rights that must be acquired.

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RIGHT-OF-WAY

Kentucky Power studies the land and, wherever possible, proposes routes that reduce impacts on property owners. Kentucky Power reaches out to landowners in the following ways:

TO GAIN RIGHT-OF-ENTRY TO BEGIN:

- Environmental assessments
- Appraisal work
- Land surveying, soil boring and other field activities
- Cultural and historic resource reviews

TO SECURE RIGHT-OF-WAY AND COMMUNICATE:

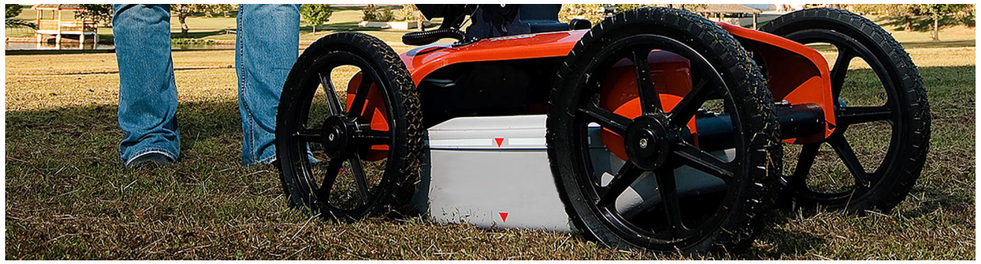
- Landowner compensation
- Terms and conditions of easement
- Width of the right-of-way

TO OUTLINE KENTUCKY POWER'S CONSTRUCTION PROCESS WITH A SPECIFIC FOCUS ON:

- Property restoration
- Damage mitigation as appropriate

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FIELD ACTIVITIES



GROUND PENETRATING RADAR

Ground Penetrating Radar (GPR) helps identify the location of underground utilities. A device that looks similar to a lawnmower, and is nondestructive to the soil, uses radio frequencies to detect objects below the ground's surface. Maps and images are created from the data.



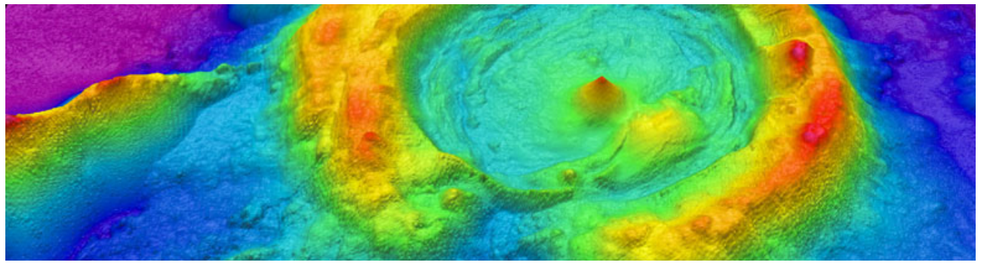
HELICOPTER

Challenging terrain or other restrictions/obstructions can make accessing certain parts of a project area difficult. In these locations, crews use helicopters to install structures, string conductors, per form line work and maintain electric facilities. Company representatives work with local media out lets to communicate these activities to the public.



HYDRO EXCAVATION

Crews use hydro excavation (hydrovac) in areas where many underground utilities are located near each other. This process involves using pressurized water to break down soil to expose underground utilities. Afterward, crews backfill the area. The process helps prevent damage to underground infrastructure while gathering important information.



LIDAR

LiDAR (Light Detection and Ranging) uses laser pulses to measure the distance of an object to the source. The data points result in digital 3D maps for accurate design and engineering. LiDAR surveying crews use mobile (car or aerial vehicle) or static (tripod) equipment.

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FIELD ACTIVITIES



SOIL BORINGS

Field crews use a drill to bring up soil samples and then backfill the holes. Testing the core samples helps determine soil conditions in the area. Soil conditions and types can affect structure location and foundation design.



CULTURAL RESOURCE SURVEY

Field crews walk the area and conduct multiple excavation tests to identify historical and archaeological artifacts. Landowners also provide information about their property to survey crews.



ENVIRONMENTAL SURVEY

Surveyors collect information about the habitats and physical attributes of the project area. They also look for ecological concerns like wetlands, flood plains and forests. This process can help protect endangered species, such as the Indiana Bat and American Burying Beetle.



UNMANNED AERIAL VEHICLES (DRONES)

Unmanned aerial vehicles (UAVs), or drones, perform aerial inspections and safely gather data and detailed images of electric facilities. Company employees and vendors comply with all commercial Federal Aviation Administration (FAA) guidelines. Company representatives work with local media outlets to communicate these activities to the public.

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FIELD ACTIVITIES



STAKING

- Field crews use staking to mark the project area, identify utility equipment and pinpoint future structure locations. This process essentially transfers engineering and construction plans to the field.
- Right-of-way crews use staking to identify parcel boundaries, easement boundaries and other utility locations within the company's rights-of-way.
- Environmental crews use staking to identify wetlands or other environmentally sensitive areas.



FIELD SURVEY

- Field survey crews help determine an appropriate route for a new transmission line by identifying constraints within the project area.
- Engineers conduct extensive studies of the terrain and soil to determine what types of structures and foundations are most suitable. They also gather information to create digital 3D maps of the project area to help engineer and design the project.

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VEGETATION MANAGEMENT



WHAT IS VEGETATION MANAGEMENT?

The practice of controlling the growth of trees and other woody stemmed vegetation in line corridors and around substations, while maintaining respect for the environment.

WHY IS IT DONE?

To minimize power outages caused by trees and other plants coming into contact with power lines.

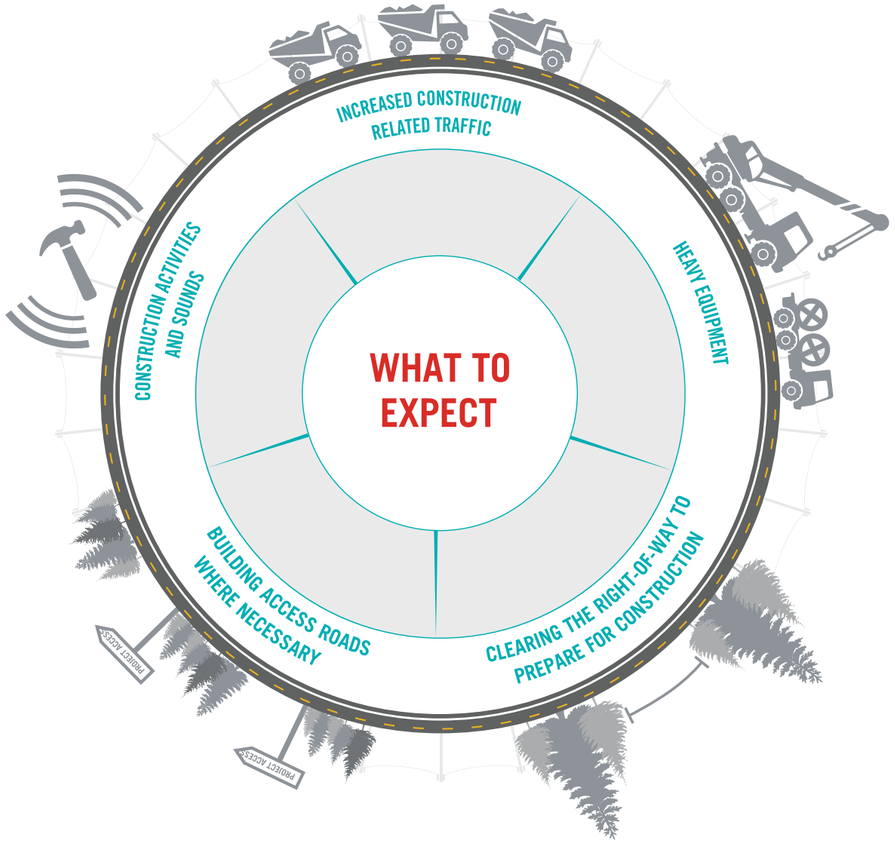
THE GOALS OF KENTUCKY POWER'S VEGETATION MANAGEMENT PROGRAM ARE TO:

- Protect our system and minimize outages
- Minimize any adverse environmental impacts
- Ensure compliance with all applicable laws and regulations
- Perform our work as safely as possible
- Maintain a positive relationship with land owners and the public



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CONSTRUCTION PROCESS

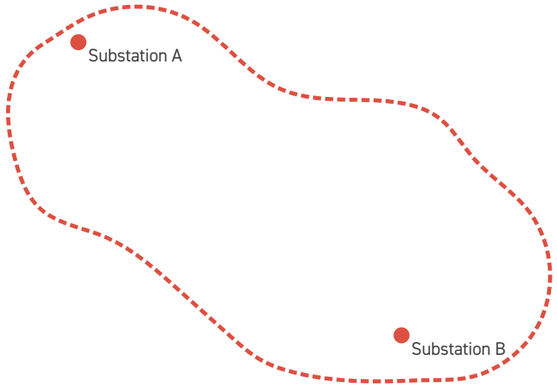


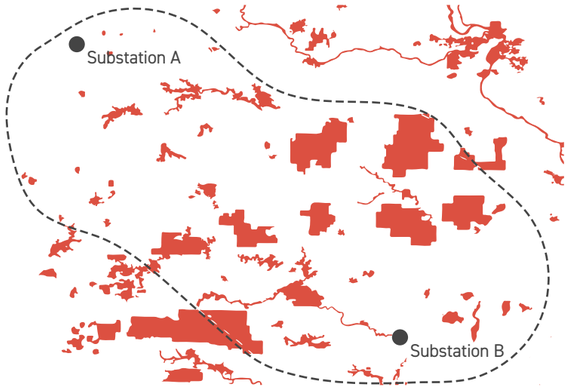
We understand the work related to transmission grid improvements can sometimes be an inconvenience. That's why the company makes every effort during the construction process to respect the environment and our neighbors, while working safely to ensure reliable electric service.

Kentucky Power plans to work with individual property owners throughout the construction process. Team members provide details of upcoming work and listen to customer feedback. If damages occur during the construction process, the company works to restore property as close to its original state as possible.

ROUTING PROCESS

Kentucky Power implements a comprehensive siting process that takes into account land use, the environment, public input and engineering to develop a transmission line route. This process is inherently iterative with route segments changing over time as more information is gathered. Below is a discussion of the terminology used at each stage in the process.





1) STUDY AREA

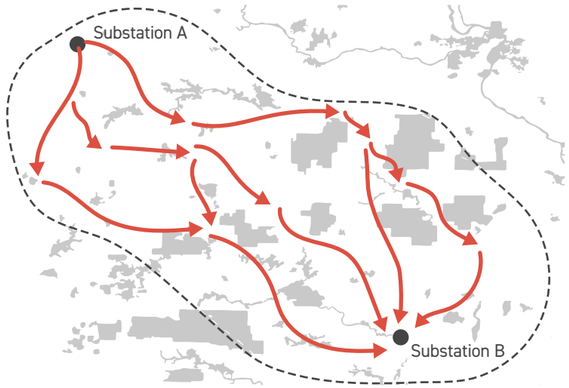
Kentucky Power develops a Study Area for the Project that incorporates the two end points and the area in between.

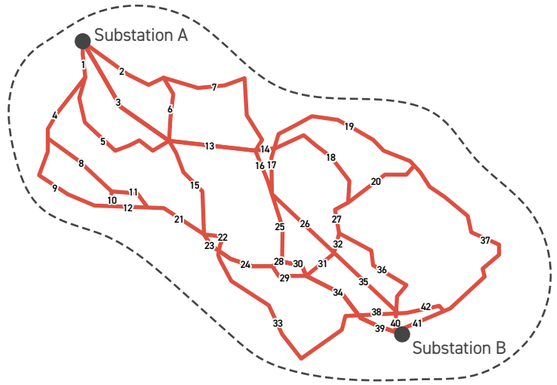
2) DATA GATHERING

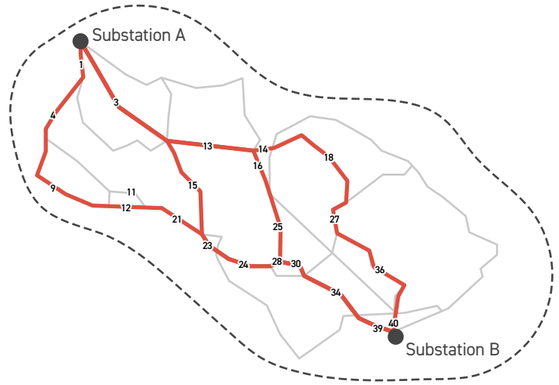
Data is gathered for the defined study area including environmental, land use, historic and cultural resources, existing infrastructure and sensitive areas.

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ROUTING PROCESS







3) CONCEPTUAL ROUTES

The Routing Team uses this information to develop Conceptual Routes adhering to a series of general routing and technical guidelines.

4) STUDY SEGMENTS

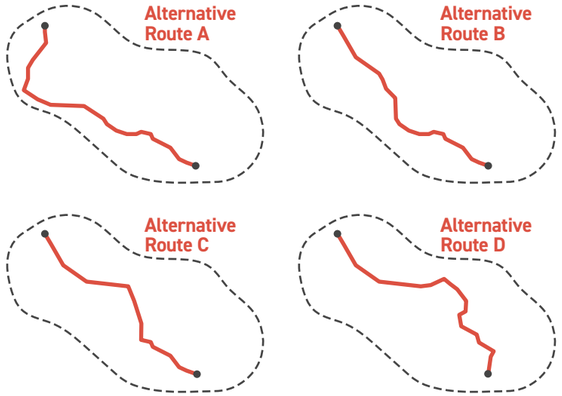
Where two or more Potential Study Segments intersect, a node is created, and between two nodes, a link is formed. Together, the network formed by these links is referred to as Potential Study Segments.

5) REFINED STUDY SEGMENTS

As more information is gathered, the Study Segments are refined. Some Study Segments are eliminated or modified, leaving the Refined Study Segments for further consideration.

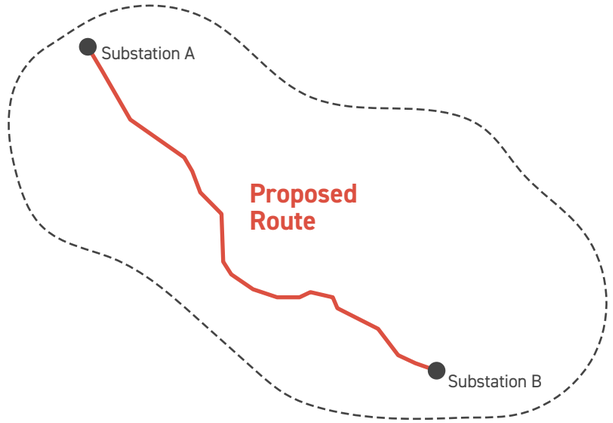
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ROUTING PROCESS



6) ALTERNATIVE ROUTES

After public input is incorporated, the Refined Study Segments are further evaluated and a selection of the most suitable segments is assembled into Alternative Routes.



7) PROPOSED ROUTE

Potential impacts are assessed and compared with land uses, natural and cultural resources, and engineering and construction concerns for all the Alternative Routes. Ultimately, a Proposed Route is selected from the Alternative Routes that minimizes the effect of the Project on the natural and human environment, while avoiding circuitous routes, extreme costs, and non-standard design requirements.

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PROJECT MAPS

OVERVIEW MAP

Step 1: Below is an Overview Map that displays the entire project area. Please use the **Overview Map** to find the general location of your property.

Overview Map (PDF)

DETAILED MAPS

Step 2: Each outlined area on the **Overview Map** represents a single, numbered Map Page that shows that section in greater detail. Visit the appropriate **Map Page** below for your area.

Detailed Map 1 (PDF)
Detailed Map 2 (PDF)
Detailed Map 3 (PDF)
Detailed Map 4 (PDF)
Detailed Map 5 (PDF)
Detailed Map 6 (PDF)
Detailed Map 7 (PDF)
Detailed Map 8 (PDF)
Detailed Map 9 (PDF)
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Detailed Map 18 (PDF)

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GARRETT AREA
TRANSMISSION LINE PROJECT

THANK YOU!

Thank you for visiting the project virtual open house. For more information and project updates please visit the project website, or contact us with any additional questions.



REPLAY OPEN HOUSE



DOWNLOAD SLIDE DECK



CONTACT US



VISIT PROJECT WEBSITE