

KENNA AREA

TRANSMISSION LINE PROJECT



[PROJECT NEED AND BENEFITS]

WHY IS THE PROJECT IMPORTANT TO OUR COMMUNITY?

IMPROVED RELIABILITY

Building a new transmission line brings an additional electrical source to the area improving reliability for residential, commercial and industrial customers.

MODERN EQUIPMENT

The upgrades uses new-age technology that allows Appalachian Power to provide a more robust power source.

REDUCING OUTAGES

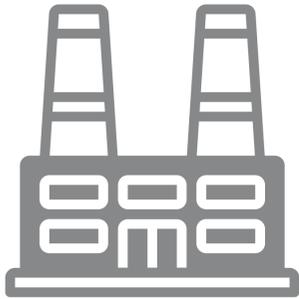
The upgrades associated with this project will decrease the likelihood of extended outages and shorten restoration times when outages do occur.

HOW THE SYSTEM WORKS



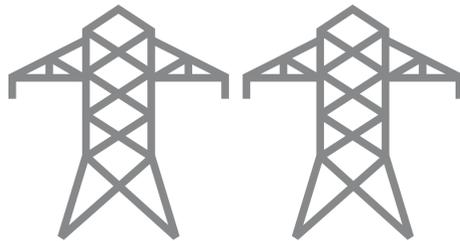
An **AEP** Company

BOUNDLESS ENERGYSM



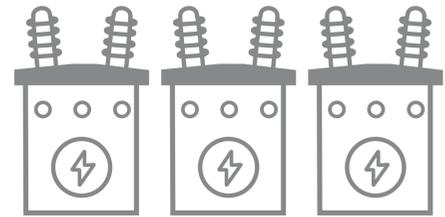
1) GENERATION STATIONS

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



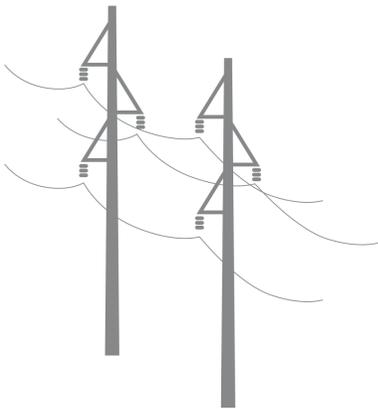
2) EHV TRANSMISSION

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



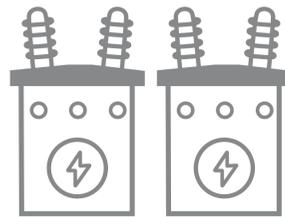
3) SUBSTATIONS

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



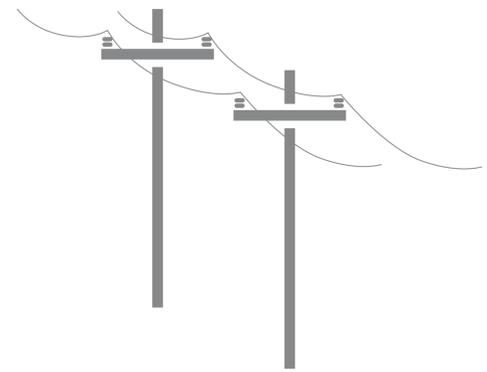
4) LOCAL TRANSMISSION

Appalachian 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.



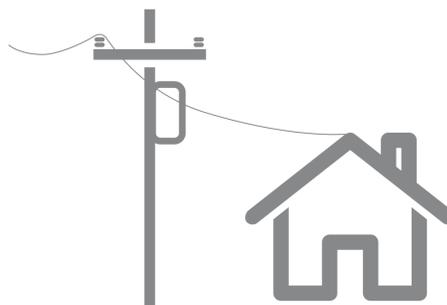
6) PRIMARY DISTRIBUTION

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



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. 120/240 volts is typical for an individual residence.

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 lines (EHV) 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.

KENNA AREA TRANSMISSION LINE PROJECT

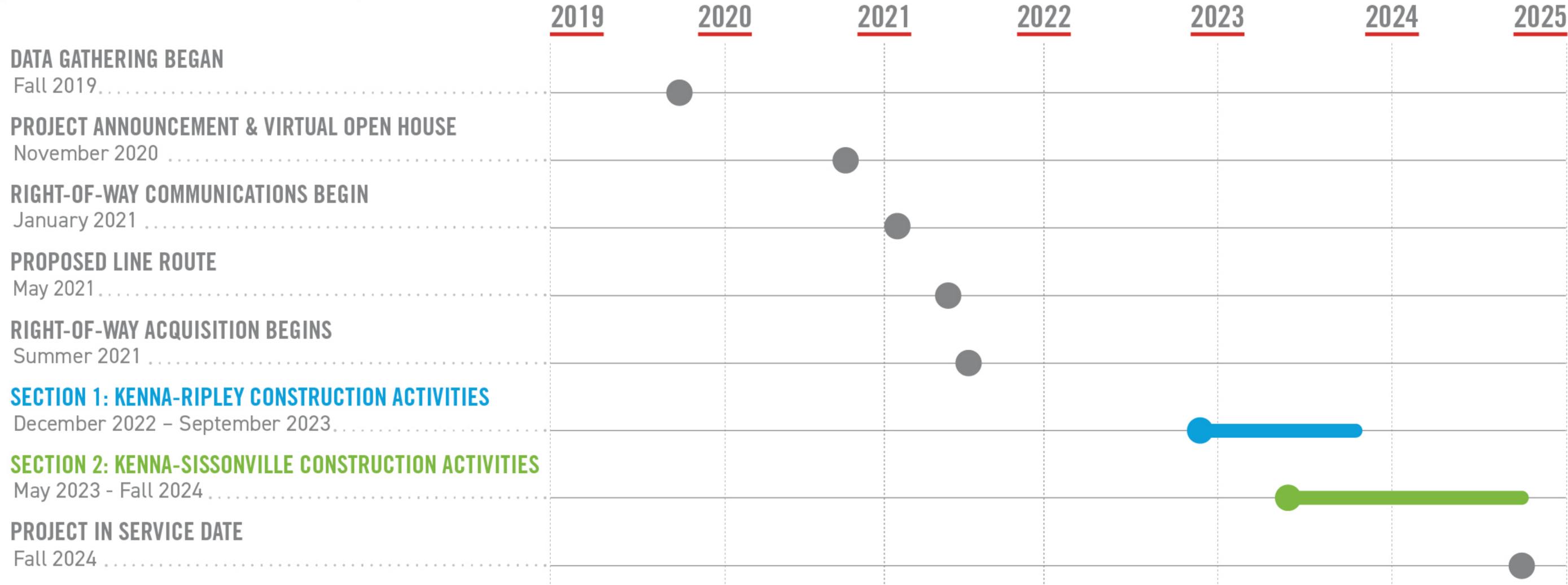


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[PROJECT SCHEDULE]

PROJECT SCHEDULE



*Timeline subject to change.

TYPICAL STRUCTURES



Crews plan to build the transmission line primarily using steel H-frame poles and towers. Proposed structures vary depending on the location.

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

Structure Height: [Approximately 80-120 feet](#)

Right-of-Way Width: [Approximately 100 feet](#)



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

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[TYPICAL SUBSTATION]



*Substation shown is a general depiction of the proposed facilities for the project. It does not represent final design.

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TRANSMISSION LINE PROJECT

[HOW TO ACCESS PROJECT MAPS]

STEP 1

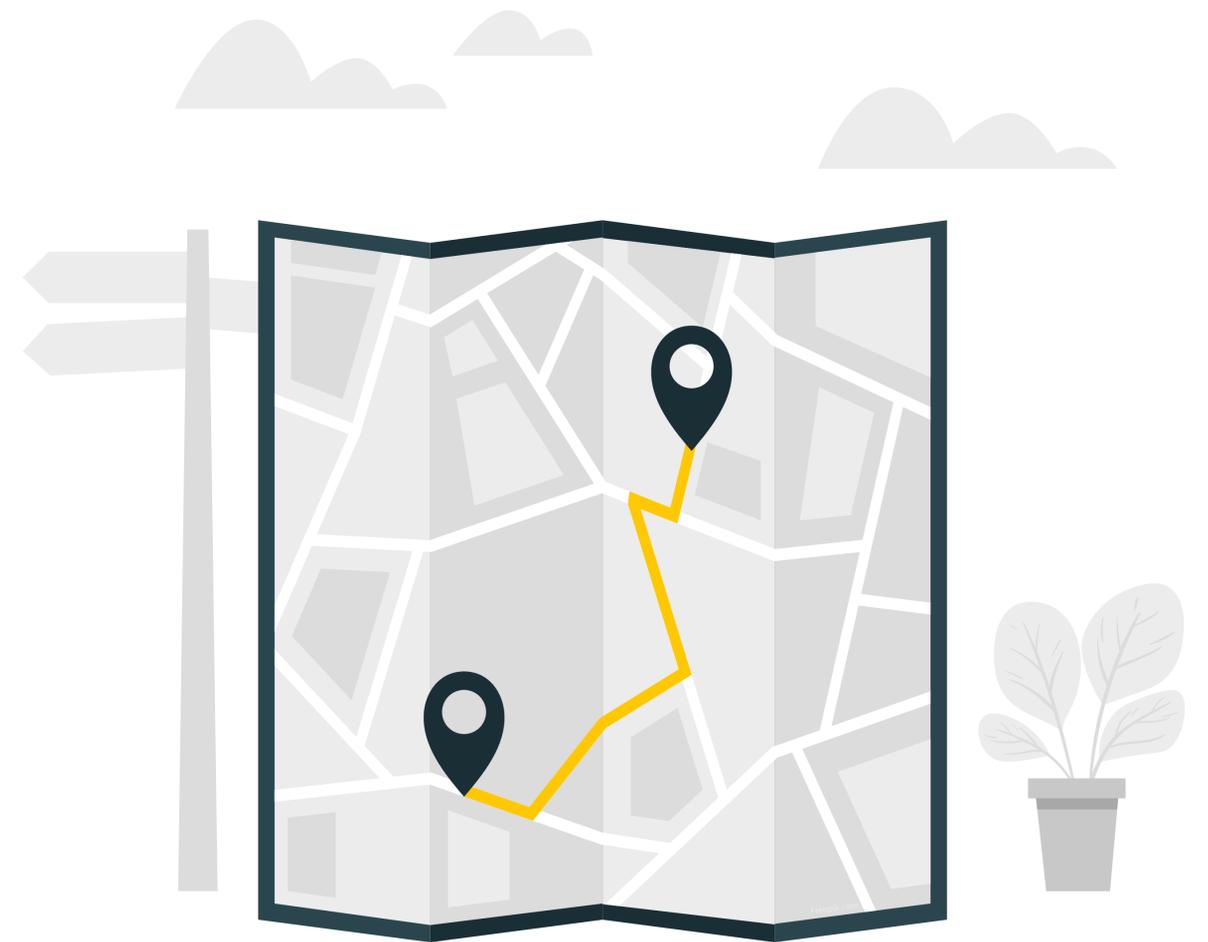
Click on the "[Project Maps](#)" tab of the main project website.

STEP 2

On the Project Maps page, you will see an **Overview Map** section. The Overview Map displays the entire project area. Please use the Overview Map to find the general location of your property.

STEP 3

Each outlined area on the Overview Map represents a single, numbered **Map Page** that shows that section in greater detail. These map pages are listed under the a section of the page titled **Detailed Maps**. Visit the appropriate Map Page for your area.



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.



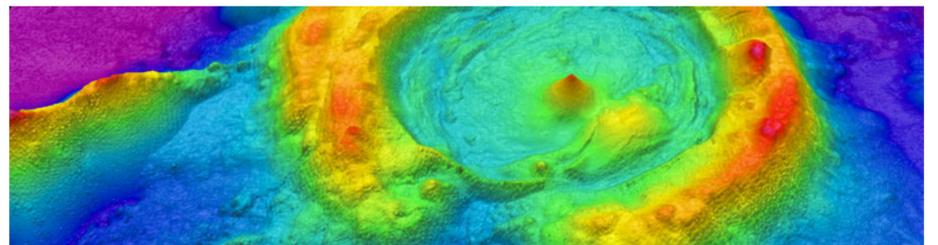
HELICOPTER

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, perform line work and maintain electric facilities. Company representatives work with local media outlets 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.



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.



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.



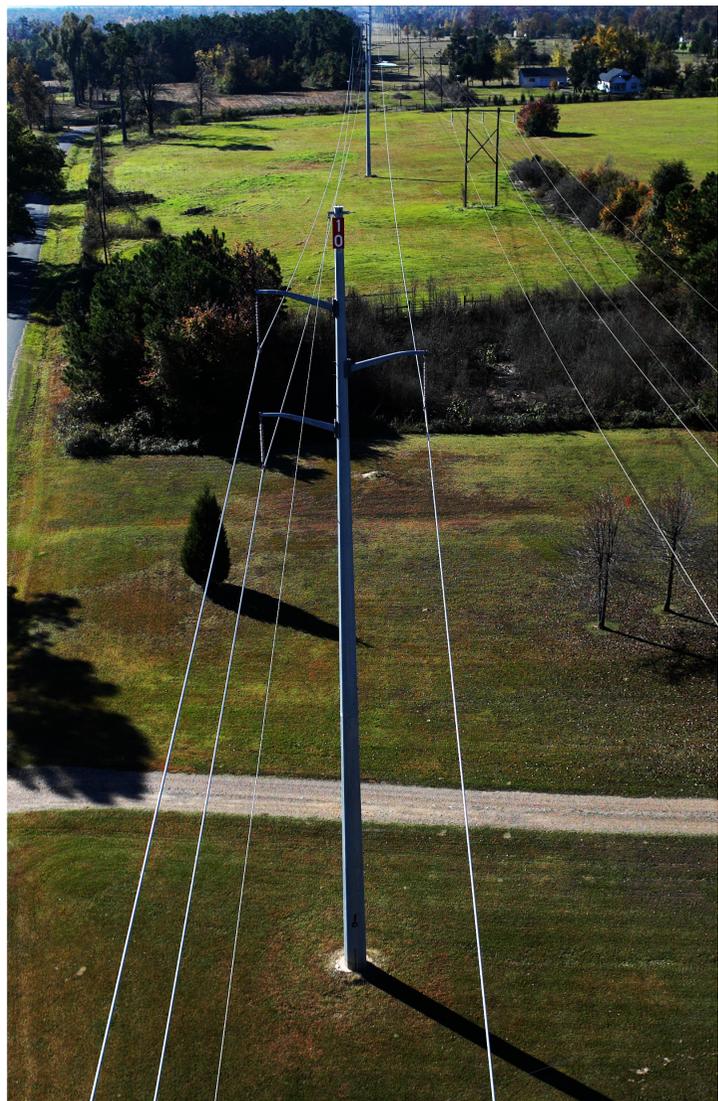
FIELD SURVEY

- 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.

ROUTING PROCESS FOR NEW TRANSMISSION LINES



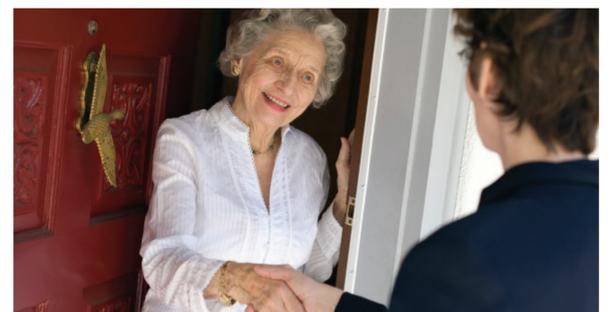
Appalachian Power strives to strike a balance between building new transmission lines that power our homes and economy while also protecting the environment.



WHEN PLANNING TRANSMISSION LINE PROJECTS*, APPALACHIAN POWER REVIEWS:

- Public and private land use, both current and proposed
- Aesthetics and visual impacts
- Water quality, including potential impacts on wetlands, streams and water bodies
- Wildlife, vegetation and fisheries, including threatened and endangered species
- Soils and geology
- Communities and neighborhoods, including anticipated development
- Historic and archaeological sites
- Transportation and roads

* Existing transmission lines that require upgrade or replacement are generally built on the same or an expanded right-of-way following the same line corridor.



Appalachian Power welcomes your involvement throughout the process. After a project is identified, we work individually with property owners to locate the power line right-of-way and address concerns. Appalachian Power also identifies and complies with requirements from local, state and federal permitting agencies.

RIGHT-OF-WAY ACTIVITIES



APPALACHIAN 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, and

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

Appalachian Power studies the land and, wherever possible, proposes routes that reduce impacts on property owners. Appalachian 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 below grade study
- 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 APPALACHIAN POWER'S CONSTRUCTION PROCESS WITH A SPECIFIC FOCUS ON:

- Property restoration
- Damage mitigation as appropriate

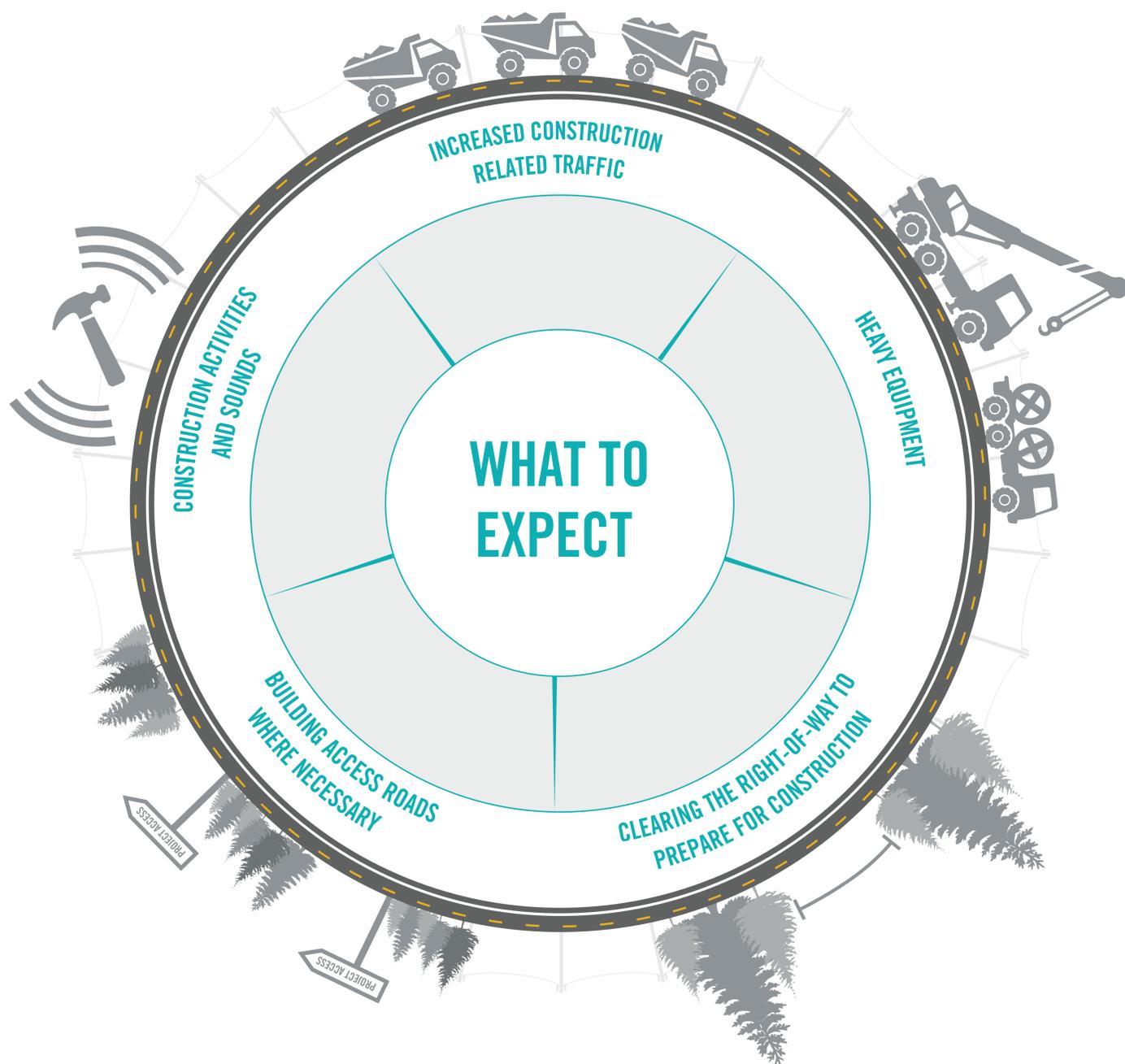
CONSTRUCTION PROCESS



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Appalachian Power understands the work related to transmission grid improvements can sometimes be an inconvenience. That's why we make every effort during the construction process to be respectful of the environment and our neighbors, while safely working to ensure reliable electric service.



Appalachian Power plans to work with individual property owners throughout the construction process. Team members will provide details of upcoming work and listen to customer feedback on how we can lessen the impact of our work. In the event damages should occur during the construction process, we will work to restore property as close to its original state as possible.