



# Border Basin Solar Public Information Meeting

May 13th, 2021

# About this Meeting



- 2 hour duration, 6-8 pm ET
- A presentation followed by a live Q&A



- For web viewers, type in your questions in the chat box on the screen



- For phone participants, press \*3 to enter queue for questions
- Follow along with the slides posted on our website [BorderBasin.com](http://BorderBasin.com), or you can view this presentation on the website afterwards

# Meet the Presenters



**Matt Marino**

CEO of Galehead Development



**Ben Metcalf**

Director of Project Development at Galehead Development



**Courtney Dohoney**

Technical Expert and Senior Consultant at Stantec



**Matt Butler**

Public Information Officer, Ohio Power Siting Board

# Agenda

- **Galehead Development Overview**
- **Solar and Ohio's Energy Tradition**
- **The Positive Impact of Solar Energy**
- **Project Overview and Preliminary Layout**
- **Permits and Studies**
- **Solar Life Cycle**
- **Common Questions**
- **Ohio Power Siting Board Process**



## Technology and Development Platform for Impact Infrastructure Investments

### Experience

30 Years of energy and technology experience among the founders



### Technology

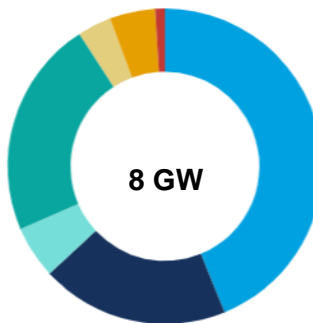
Proprietary LandCommand™ software accelerates and de-risks development investments



### Process

Disciplined market entry and development tollgate methodologies

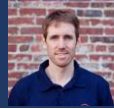
Sum of Design Capacity (MWac)



- Founded Sept. 2016
- 100 projects representing nearly 8 GW of originated projects under active development across 30 states
- 50k+ acres definitive site control secured for projects under development
- Differentiated platform for scalable market mobilization and upstream development
- Best-in-class, in-house land origination, land acquisition and development capabilities

Data-Driven Origination and Development of Low-Impact, Price-Leading Clean Energy Projects

# Three Types of Solar Projects



Ben

## Residential

- Installed on the roof of residential structures
- Provides direct displacement of electricity



## Commercial (“C&I”)

- Installed on the roof or nearby land of businesses
- Provides direct displacement of electricity



## Utility-Scale

- Installed in rows on suitable land
- Provides power in large volumes to serve transmission-level supply distributed by utilities
- Integrated into the grid and serves the broader community and beyond





## State Solar Spotlight



# Ohio

### Key Figures

<b>Total Solar Installed</b> <b>503.35 MW</b> 237.43 MW in 2020	<b>National Ranking</b> <b>23rd</b> Ranks 18th in 2020	<b>Solar Jobs<sup>1</sup></b> <b>7,282</b> Ranks 7th in 2019	<b>Growth Projection</b> <b>2,349.14 MW over the next 5 years</b> Ranks 12th
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Enough solar installed to power: **60,456 homes**

Percentage of state's electricity from solar:<sup>2</sup> **0.4%**

Price decline over the last five years: **45%**

There are **213** solar companies operating in Ohio.<sup>3</sup>

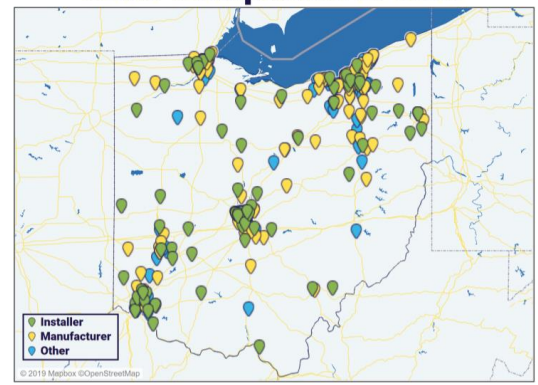
**88**  
Manufacturers

**59**  
Installers/  
Developers

**66**  
Others

**\$** The solar industry has invested \$952.70 million in Ohio, including \$244.62 million in 2020

## Solar Companies in Ohio



## Benefits of Solar

- Create good paying jobs
- Stabilize wholesale electricity rates
- Dependable tax revenue to schools and counties

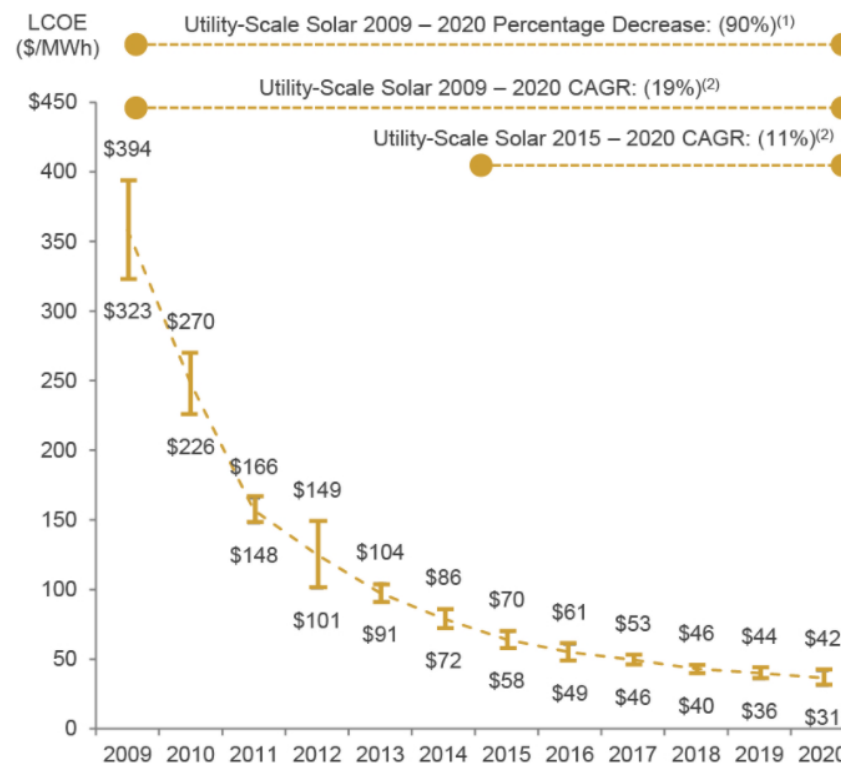
# Ohio's Energy Tradition



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- Significant Ohio and regional generation retired or retiring by 2030
- AEP retiring 6 GW Ohio and regional thermal generation
- AEP net-zero emissions by 2050
- Ohio-based Fortune 500 companies and facilities targeting 100% renewables
- Most consistent, lowest-cost form of power generation for Ohio ratepayers is utility-scale solar

## Unsubsidized Solar PV LCOE







## Tax Revenue

- Increased tax revenues to local governments
- Arcadia School District
- Van Buren School District



## Job Creation

- Est. 200+ jobs for Ohio residents during development and construction
- Est. 15+ jobs directly and induced



## Other Local Benefits

- Development without taxing local resources (schools or emergency services)
- Helps stabilize electricity rates
- Reduces health impacts from air pollution



- Met with multiple local stakeholders
- Mail notices to project neighbors
- Mail notices to Cass Township public stakeholders
- Notice in “The Courier”
- Providing local support:
  - 4H Club
  - Seagate Food Bank
  - West Central OH LC



- **Feedback welcome and encouraged**
- **Contact info at end of presentation**

# Environmental Benefits of Solar



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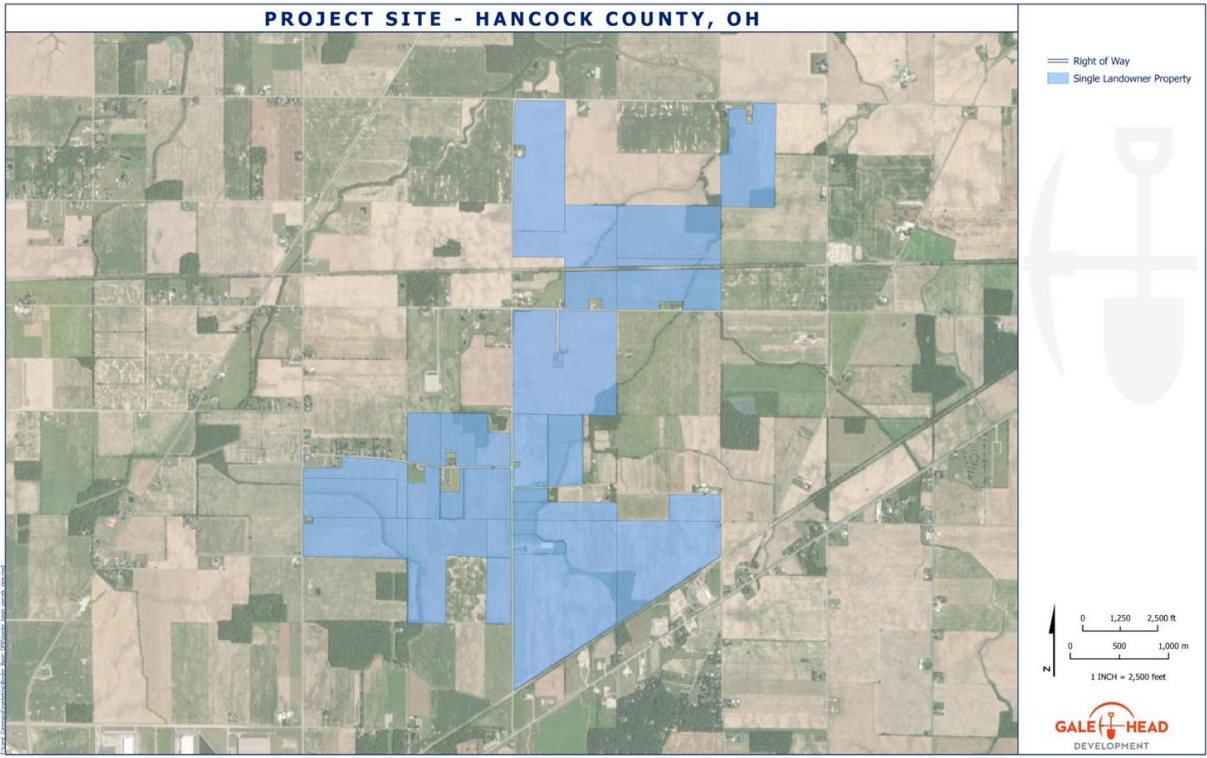
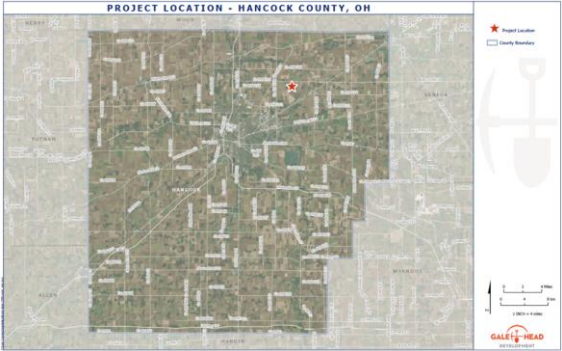
- No transportation, storage, or disposal of physical or liquid fuels
- No on-site combustion or emissions during operation
- Does not utilize water or emit point-source pollutants into waterways
- Solar projects do not permanently or substantially alter soils, drainage or native fauna.
- Allows soil underneath to rest and fosters native plant growth



# Project Location



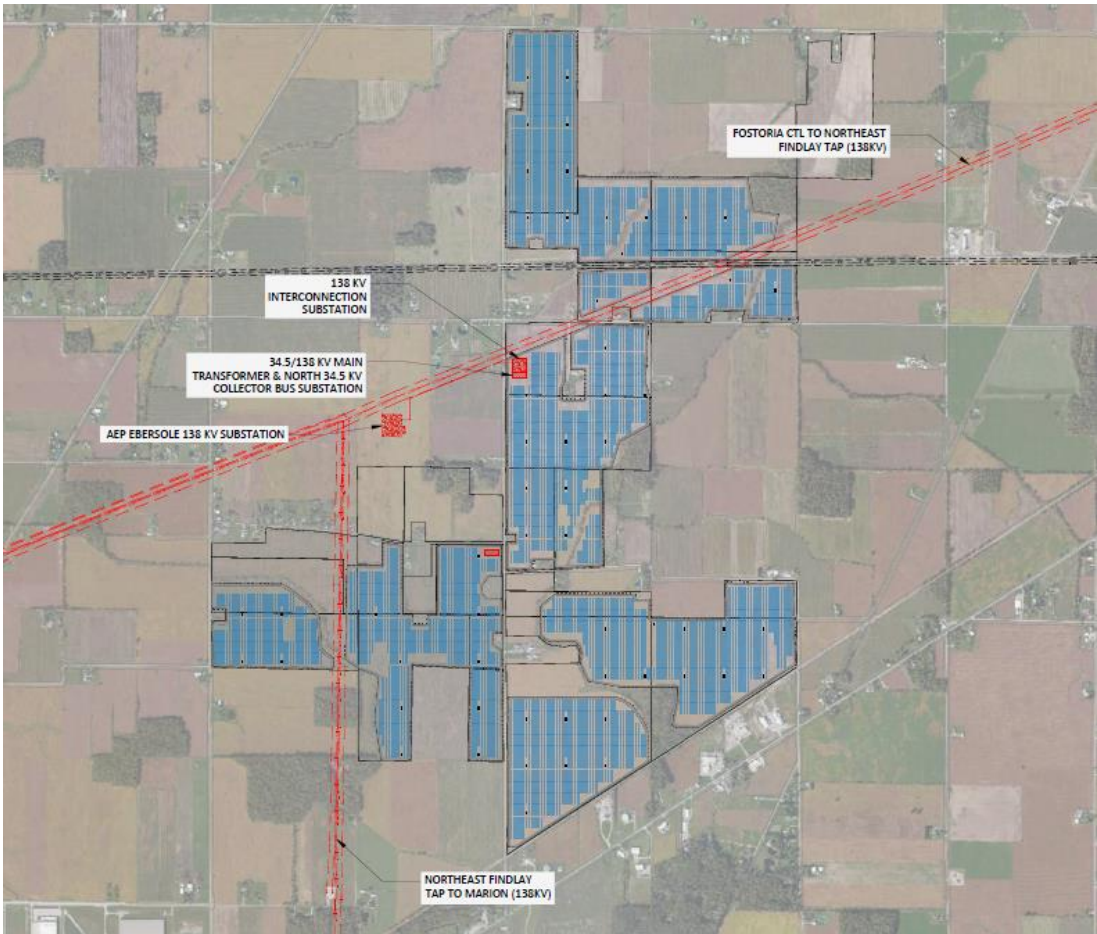
Ben



# Preliminary Layout



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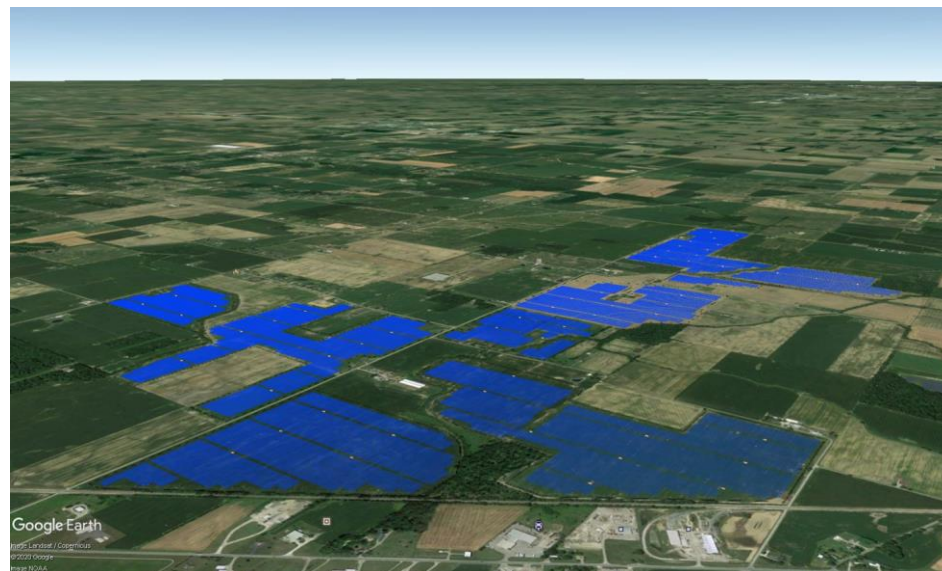


## Site Control

- Cass Township
- Single landowner
- Project Site Secured
- 1,356 site acres

## Solar Resource and Interconnection

- ~966 project acres<sup>1</sup>
- Operational Capacity: 120 MWac
- Substation located on site
- PJM Queue position AE1-146
- POI Ebersole #2-Fostoria Central 138 kV
- 2023-2024 Target COD



**OPSB case number:**

**21-277-EL-BGN**

<sup>1</sup> Final project acres subject to design modifications

# Example Solar Project



Ben





## Indicative/Target Project Schedule

	2021												2022												2023																			
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec											
<b>OPSB Process</b>	Dark Blue												Light Blue		Light Blue																													
<b>Engineering &amp; Procurement</b>																			Dark Blue																									
<b>Construction</b>																															Dark Blue													
<b>Commercial Operation Starts</b>																																											Dark Blue	





## Current Permitting Efforts

- State Level Permitting
  - Ohio Power Siting Board: Certificate of Environmental Compatibility and Public Need
- Environmental Permitting & Agency Coordination
  - United States Fish & Wildlife Service
  - Ohio Environmental Protection Agency
  - Ohio Department of Natural Resources
  - Ohio History Connection (SHPO)

## Surveys & Studies

- Wetland Delineation
- Threatened & Endangered Species Habitat Analysis
- Architectural History and Archaeology Study
- Construction Route Study
- Glint & Glare Study
- Sound Study
- Geotechnical and Hydrology Studies
- Visual Impact Analysis and Mitigation
- Economic Impact Analysis
- Decommissioning Plan



## Construction

- After permitting and studies are complete
- Estimate a 10-month period
- Creates employment opportunities

## Operations and Maintenance

- After project has finished construction
- Provides electricity to the grid
- Quiet and low maintenance

## Decommissioning

- Estimate 30 years of productive life
- Removes all equipment
- Majority of equipment not in the ground, so land remains minimally impacted



# Timelapse



Ben

Solar Farm Construction Time-Lapse



▶ ⏸ 🔊 0:08 / 0:49

Scroll for details





## **Will the project cause storm water to impact neighboring farmland?**

Solar farms need to drain just as well or better than farm fields. The project will have a detailed storm water plan both during construction and operations. We are working with the landowner to make sure tiling is not impacted by the project.

## **How much tax revenue will the project generate?**

Under Ohio law, solar projects can apply to be a Qualified Energy Project. This gives both the County and Project certainty over the taxes that will be generated over the life of the project. The project is beginning the process of applying to be a Qualified Energy Project. If approved, it will pay \$9,000 per MW annually, roughly one million dollars per year, for the life of the project. This is the same rate that projects in neighboring counties are paying.

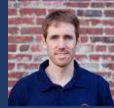


## **Pilings — Do you bore down into the ground? If so, how deep? Do you use concrete?**

The pilings used to support the solar panels are driven into the ground similar to how a nail gun works. They typically will go to a depth of around 6', determined by a thorough soil study and engineering study. No concrete is used for the pilings.

## **Will construction cause damage to existing infrastructure...e.g. roads?**

The project will work with the County Engineer to minimize and mitigate any impacts from construction activities. The only real heavy equipment involved is limited to the project's main transformer.



## What about glare?

Solar projects are designed to absorb light to produce electricity. Only about 2% of incoming light gets reflected. All solar projects have to be approved if they don't pass the screen by the FAA.

## Will this project be loud?

No. Solar is very quiet. During operations, projects do make some noise, however, studies have shown that the noise is inaudible once at a distance of between 50 - 150 feet from the project. At night time, the projects do not make noise.



## Are the panels toxic? What if they're damaged by storm?

PV panels typically consist of glass, aluminum, copper, silver and semiconductor materials that can be successfully recovered and reused. By weight, more than 80 percent of a typical PV panel is glass and aluminum – both common and easy-to-recycle materials. Because PV panel materials are enclosed and don't mix with water or vaporize into the air, there is little, if any, risk of chemical releases to the environment during normal use. The most common type of PV panel is made of tempered glass, which is quite strong. They pass hail tests and are regularly installed in Arctic and Antarctic conditions.



**Website:** [BorderBasin.com](http://BorderBasin.com)

**Email Address:** [info@BorderBasin.com](mailto:info@BorderBasin.com)

**Phone Number:** 1-419-581-9142





Power Siting Board



# Power Siting Board



Public Utilities Commission



Development Services Agency



Department of Health



- Before any company can build a “major utility facility,” the OPSB assures that it benefits Ohio’s citizens, promotes the state’s economic interests, and protects the environment and land use.
- Public and local government participation are strongly encouraged, but decision-making authority rests with the OPSB.
- If approved, the OPSB issues a certificate for the construction, operation, and maintenance of the facility.

## Electric Generation

Wind farms  
5 MW and greater

Solar farms  
50 MW and greater

Fossil fuel plants  
50 MW and greater

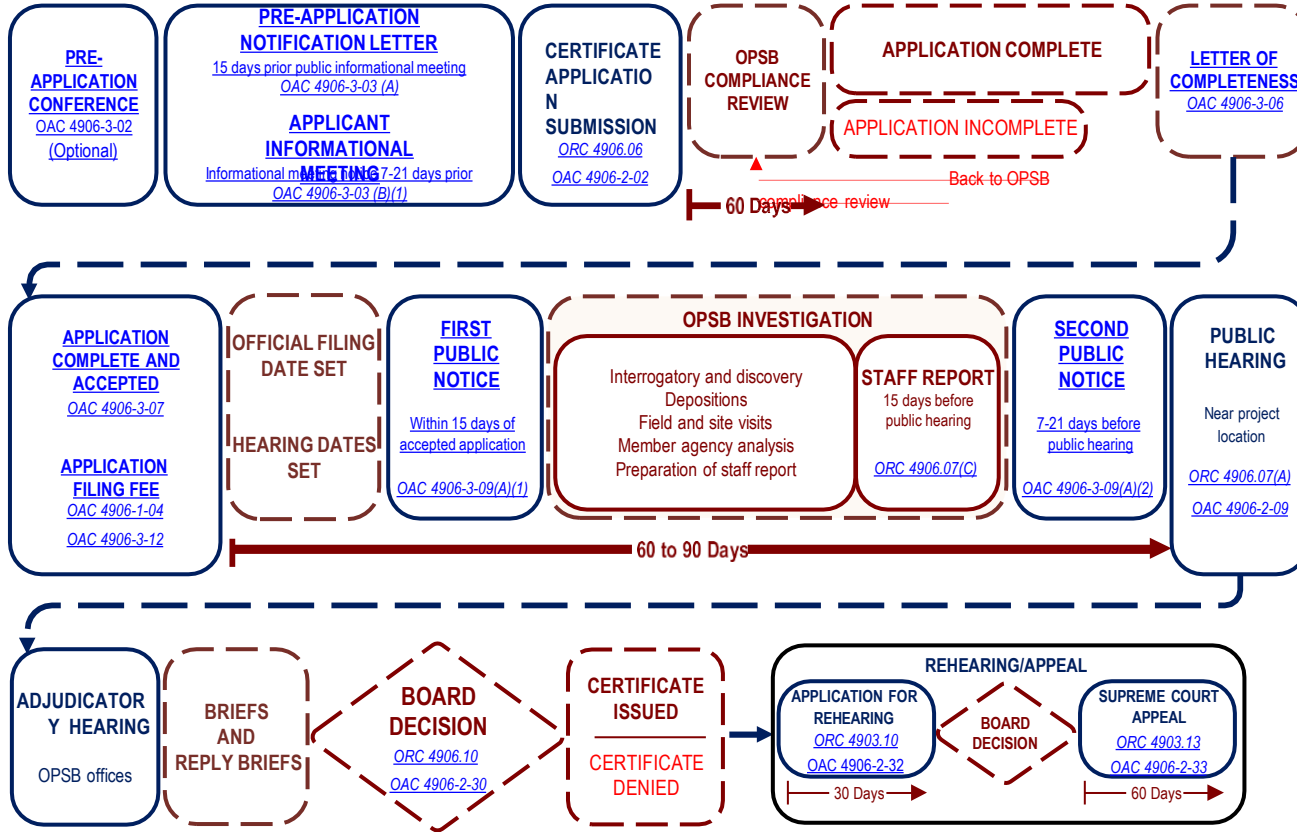
## Electric Transmission

Lines and associated  
facilities 100 kV and  
greater

## Natural Gas Transmission

Pipelines greater  
than 500 feet in  
length and 9 inches  
in diameter

Maximum operating  
pressure greater  
than 125 psi



### LEGEND



Construction and operation are monitored by the OPSB

## Public informational meeting

Developer educates community about project and gathers input to consider in developing its application. OPSB representatives provide info about siting process and public participation.

## Public comments

Written comments are filed in the case where they inform the Board members and staff. Comments are accepted at any time after a case number is established.

**Website:** [OPSB.ohio.gov](http://OPSB.ohio.gov)

**Email:** [contactOPSB@puco.ohio.gov](mailto:contactOPSB@puco.ohio.gov)

**Mail:**

Ohio Power Siting Board

180 E. Broad Street

Columbus, Ohio 43215

## Local public hearing

Board obtains sworn statements from the public which are transcribed and become part of the official record that the Board considers before making its decision.

Held at least 15 days after staff publishes its report of investigation. Notification letters sent to property owners and local officials. Newspaper notice 7-21 before the hearing.

## Adjudicatory hearing

The developer, OPSB staff, and parties to the case present testimony and evidence regarding the facility and cross examine each other. **Intervention** grants individuals and local governments the right to participate as a party in the adjudicatory hearing, file for rehearing, or appeal to the Supreme Court of Ohio.

Held approximately 2 weeks after the local public hearing. Property owners and local officials receive letters advising them of right to intervene.

## **OPSB Website**

[OPSB.ohio.gov](https://opsb.ohio.gov)

- Case summaries
- Process information
- Calendar of events

## **Docketing information system** [dis.puc.state.oh.us](https://dis.puc.state.oh.us)

- View case documents and public comments
- Subscribe for case notifications



Questions?

THANK YOU

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