



# NORTHERN VALLEY WIND PROJECT INFORMATION SESSION

Please sign in at the registration desk then feel free to check out our display boards and say hello.



Our team is here to provide information about the project, answer questions and listen to your feedback.

# WHY ELEMENTAL ENERGY



**HARNESSING THE  
ELEMENTS IS THE  
NATURE OF OUR  
BUSINESS.**

Elemental Energy began with a belief in the power of the elements to provide renewable energy for all, and a sense of urgency to make it happen.

We develop, own and operate industry leading wind and solar projects in Alberta and across Canada, bringing renewable energy to the grid where it matters the most.

We look to build partnerships, where alignment, transparency, and accountability create relationships that launch projects for mutual benefit.



# ELEMENTAL ENERGY

Canadian private renewable energy development company with over 200 MW of wind, solar, and hydro projects in construction/operations, and over 1,000 MW of projects in development. This includes three of operating wind projects in Canada, and five of operating solar projects in Alberta. Our project portfolio map is shown below.

## OUR VISION

We are committed to projects that generate environmental benefits for the planet, positive social impacts for the communities in which we work, and long-term financial returns. From greenfield to fully operational, we develop, fund, and acquire renewable energy projects at various stages of development.

## OUR TEAM

Elemental is an entrepreneurial team of individuals with diverse backgrounds in energy, finance, and project development. The team brings a track record of executing complex transactions, building successful businesses, and developing lasting partnerships.



# WHY NORTHERN VALLEY WIND



## ALBERTA, ENERGY CAPITAL OF CANADA

Increasingly renewables are playing a larger role Alberta's energy landscape, which is driven by market demand. Capturing the economic opportunity associated with developing renewable energy projects is additive to Alberta's energy economy, further strengthens Alberta position as a global leader in responsible energy production and contributes valuable tax revenues to local governments

## SHARED ENERGY INFRASTRUCTURE, SERVICES AND BENEFITS

Development of renewables depends on a demand for energy, the availability of infrastructure and a skilled workforce to build and deliver energy to industry and communities. Wind energy brings electricity to the grid at a lower cost than traditional forms of generation, making it more affordable for residents and local businesses, in addition to delivering local and regional environmental benefits.

## DIVERSIFIED LOCAL ECONOMY

Development of wind energy projects is compatible with existing agriculture and oil and gas sector land uses. We work with local energy companies and landowners to avoid interactions with their existing operations. Farmers can continue to plant crops or graze livestock on their lands, while supplementing their farming incomes, especially in times of low agricultural production.



# PROJECT INFRASTRUCTURE



## WIND TURBINES

The Northern Valley Wind Project will be comprised of up to 17 turbines. These wind turbines will have a tower height of ~120m and a blade length of ~82m.

## ACCESS ROADS

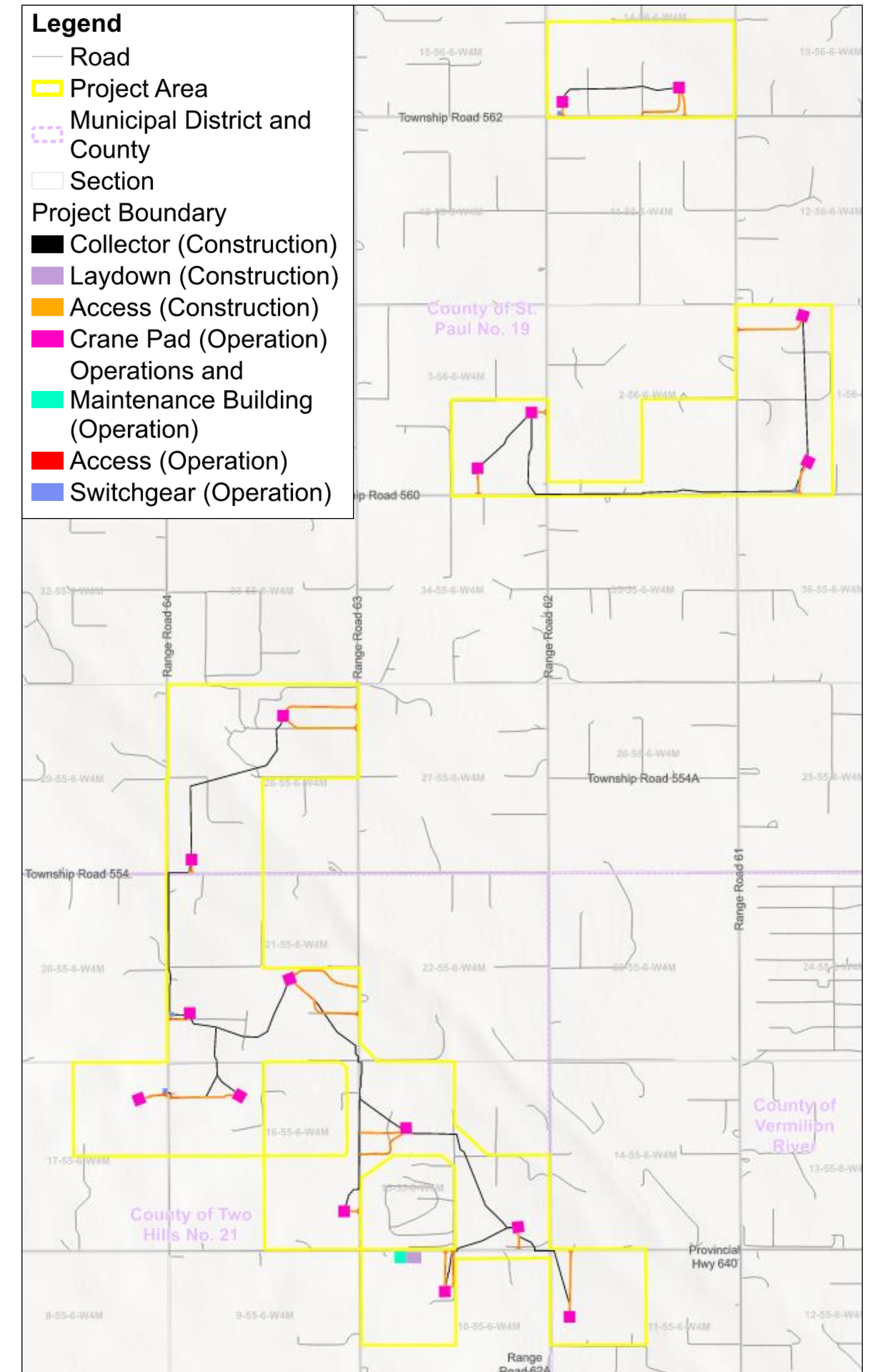
Access roads, and turbine pads will be required to construct, service and access project turbines. Existing access roads will be used where possible.

## COLLECTOR SYSTEM + GRID INTERCONNECTION

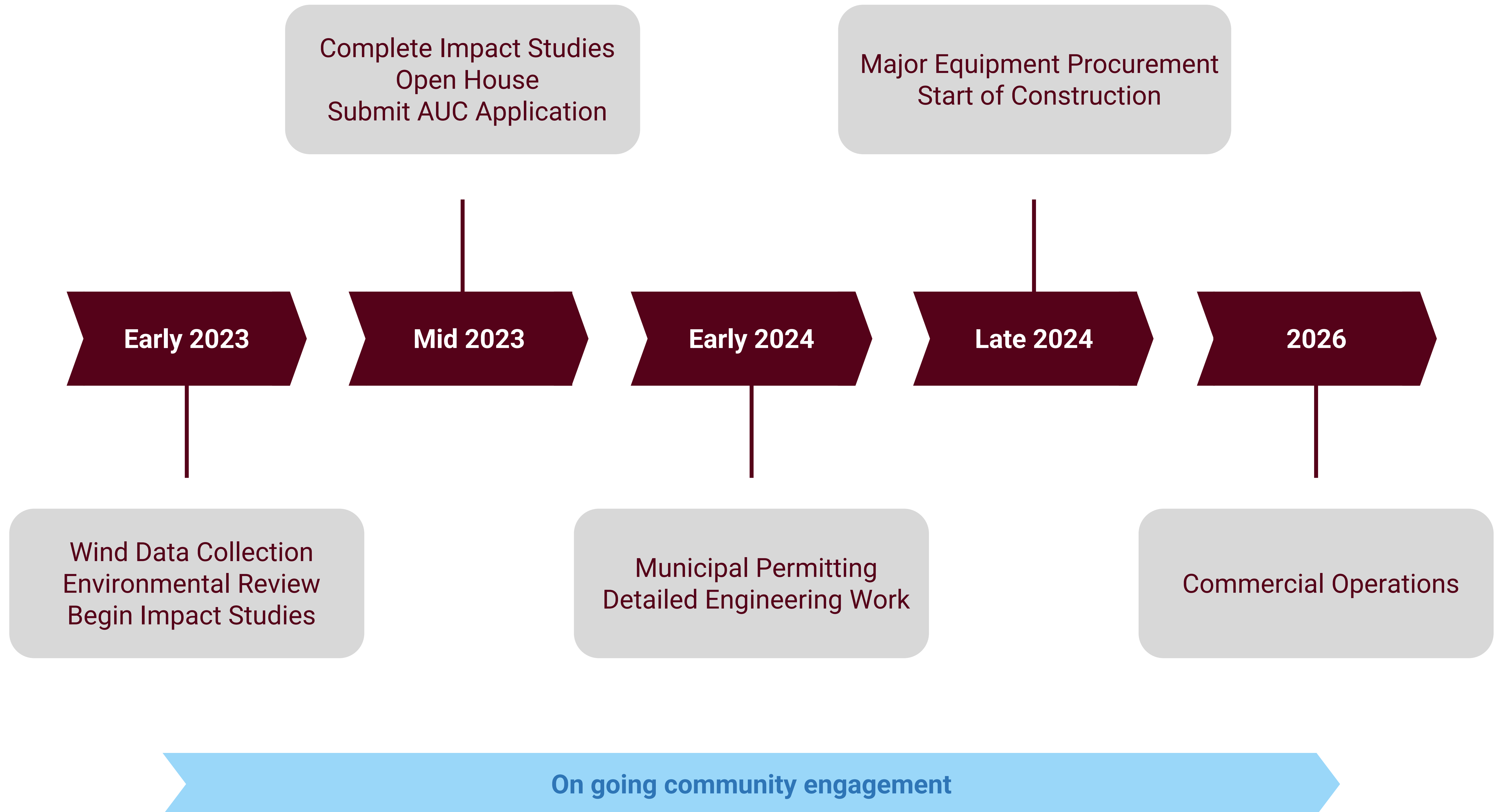
Collector lines are required to connect the turbines to the grid. All the project's collector lines will be underground and will interconnect through existing ATCO distribution lines into the Irish Creek Substation.

## OPERATIONS AND MAINTENANCE BUILDING

The operation and maintenance building serves as central hub for the personnel responsible for the ongoing maintenance, repair, and operation of the wind turbines. It also functions as a safety muster point as well as storage for spare parts and tools.



# PRELIMINARY SCHEDULE



# COMMUNITY ENGAGEMENT



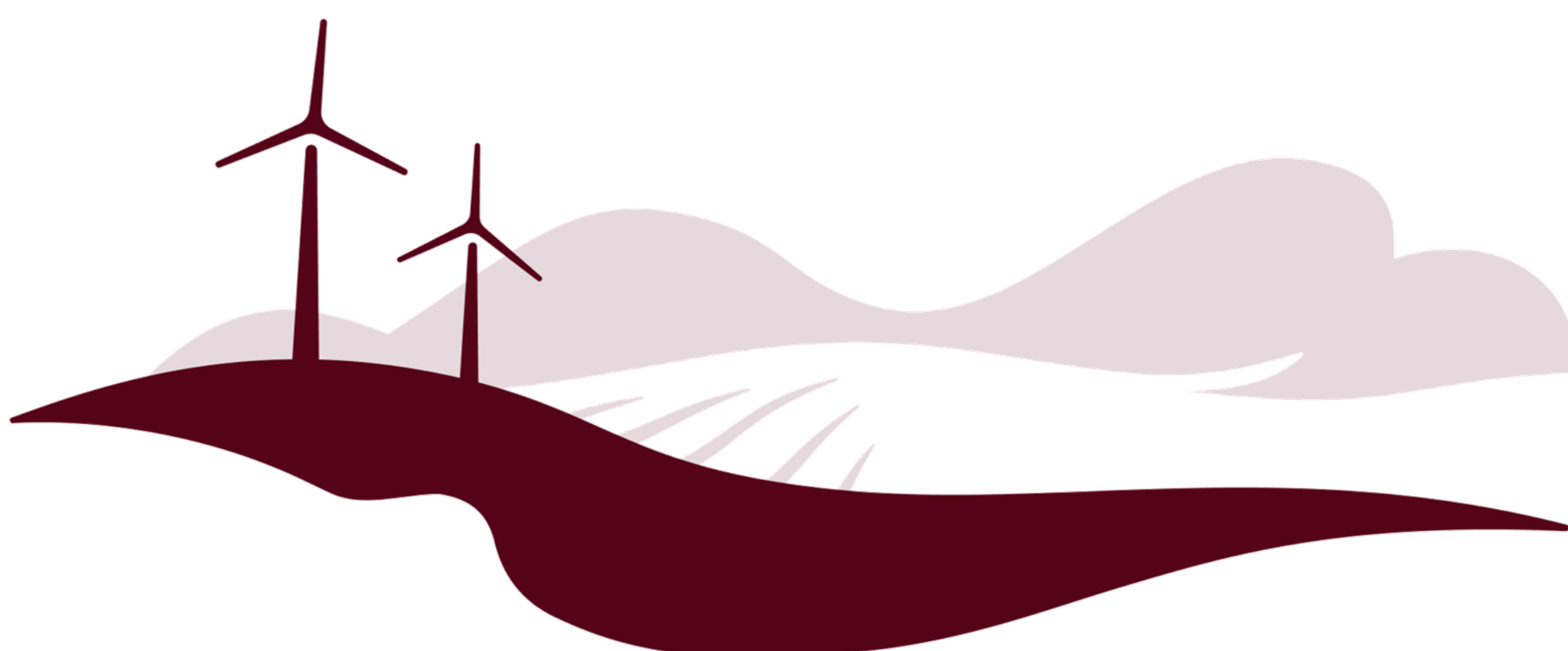
We recognize that the support of the community, landowners, local businesses, and government are key to successful projects. This is why we work diligently to provide a variety of engagement opportunities.

## ENGAGEMENT TO DATE

- Introduction letter to residents within 1.5 km of the Project Area
- Conversations with local landowners
- Conversations with community and business groups
- Conversations with local First Nations
- Presentations to Mayor and Council at Two Hills County, St Paul County, Vermillion County and Town of Elk Point

## FUTURE ENGAGEMENT

- Project specific information newsletter
- Meetings with individual stakeholders
- On going consultation with local government for municipal permitting
- On going consultation with other community and business groups
- Project status and information update letters
- Contracting and employment opportunities during construction



# WHAT WE'VE HEARD



## PROPERTY VALUES

Many wind projects have been built around Alberta and across North America. Several studies have been completed indicating there is limited evidence to suggest property values are negatively impacted.

## ENVIRONMENT

Elemental has completed a full year of environmental desktop and field studies to document important wildlife features and assess potential project impacts. The project layout has been designed to minimize and avoid potential impacts to wildlife and wildlife habitat. The project will undertake construction and operational phase environmental monitoring.

## HEALTH

The provincial regulators have established guidelines to mitigate potential health effects from wind turbines. Noise and shadow flicker assessments have been completed to understand the potential effects on nearby residents. A complaint resolution plan will be developed that communicates how we will address and respond to complaints should they arise during operations.

## INTEREST IN ECONOMIC OPPORTUNITIES

Local businesses are interested in the increased spending on goods and services during construction and operations project phases. We will aim to utilize as many local contractors and resources when possible throughout project construction and operations.

## AIRPORTS

Elemental has heard concerns regarding the possible interaction with nearby airports. Consultation has been carried out with government agencies including NAVCan and the Department of National Defense who both issued a letter of non-objection for the project.

## DECOMMISSIONING

Decommissioning is governed by provincial legislation and regulations, specifically the *Environmental Protection and Enhancement Act (Alberta)*, and the Renewable Energy Conservation and Reclamation directive enacted thereunder. A decommissioning and reclamation plan will be created for the project, and the project will follow the applicable laws and regulations to ensure the project is decommissioned and the lands are reclaimed to their pre-disturbed state.



# ENVIRONMENTAL STUDIES



The Northern Valley Wind Project area has undertaken environmental desktop and field studies beginning in 2022. Environmental studies follow established study methods detailed in the Alberta Environment and Projected Areas (AEPA) Wildlife Directive for Wind Energy Projects (2018).

## FIELD SURVEYS

Surveys that have been completed for the project and surrounding area include the following:

- Land cover and vegetation assessment
- Wildlife zones identification and sensitive habitat mapping
- Wetlands and watercourse mapping
- Spring and fall bird migration surveys
- Bat acoustic monitoring surveys
- Breeding bird and sharp-tailed grouse lek surveys
- Raptor nests searches
- Sensitive habitat mapping

## REGULATORY REQUIREMENTS

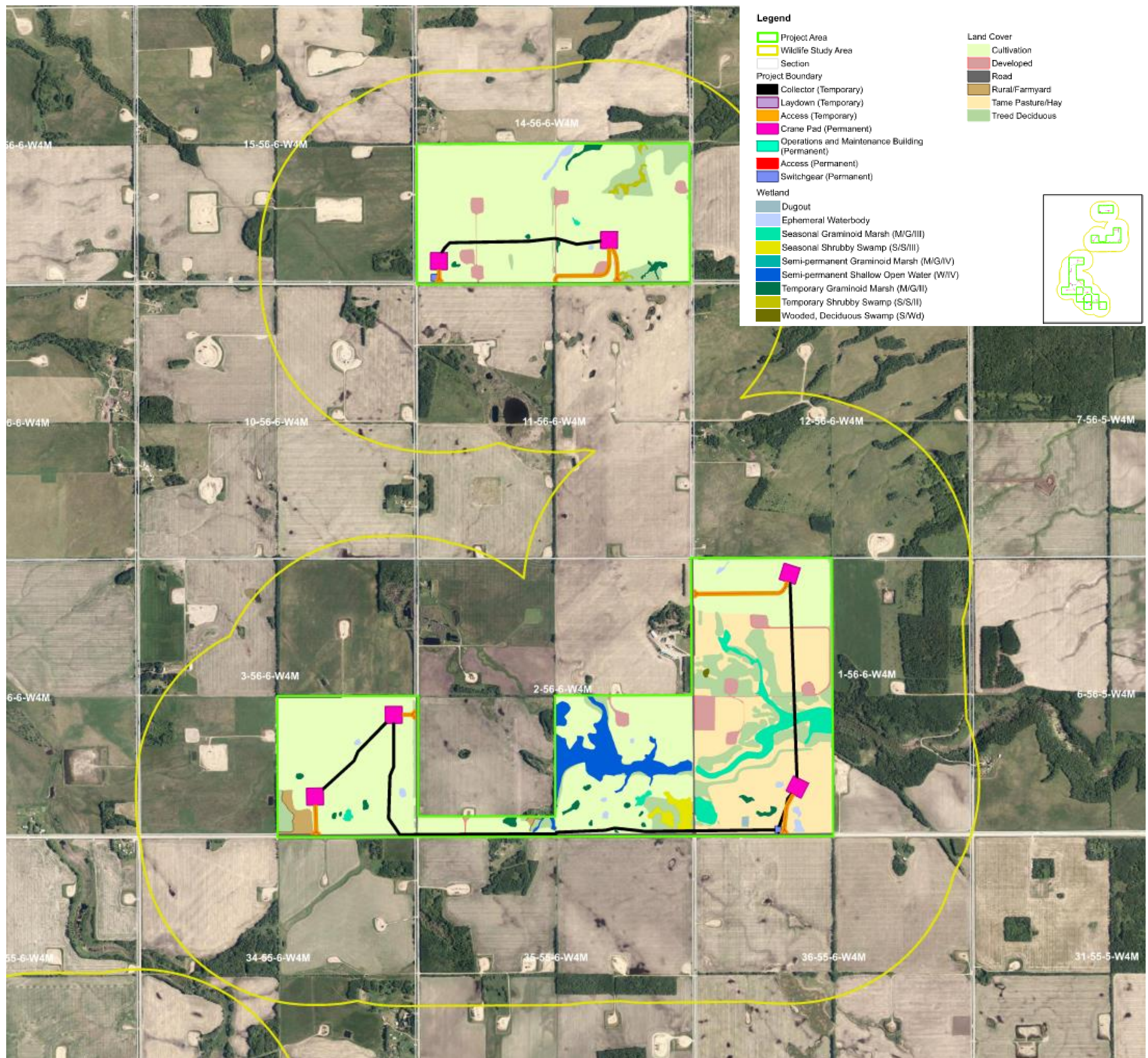
**AEPA Renewable Energy Report** - the results of environmental field studies are submitted to AEPA for review. AEPA produces a Renewable Energy Report that characterizes the project risk to wildlife and wildlife habitats.

**Environmental Evaluation** – an Environmental Evaluation is being prepared for the project and will be submitted to the Alberta Utilities Commission as part of the project's regulatory application. The Environmental Evaluation supplements the Renewable Energy Report and evaluates the potential environmental effects of the project.

**Environmental Protection Plan** – the purpose of an Environmental Protection Plan is to summarize mitigation and monitoring programs that the project will be implementing during construction and operation.

Elemental is committed to designing, constructing, operating, and reclaiming the Project in an environmentally responsible manner and in accordance with the regulations.

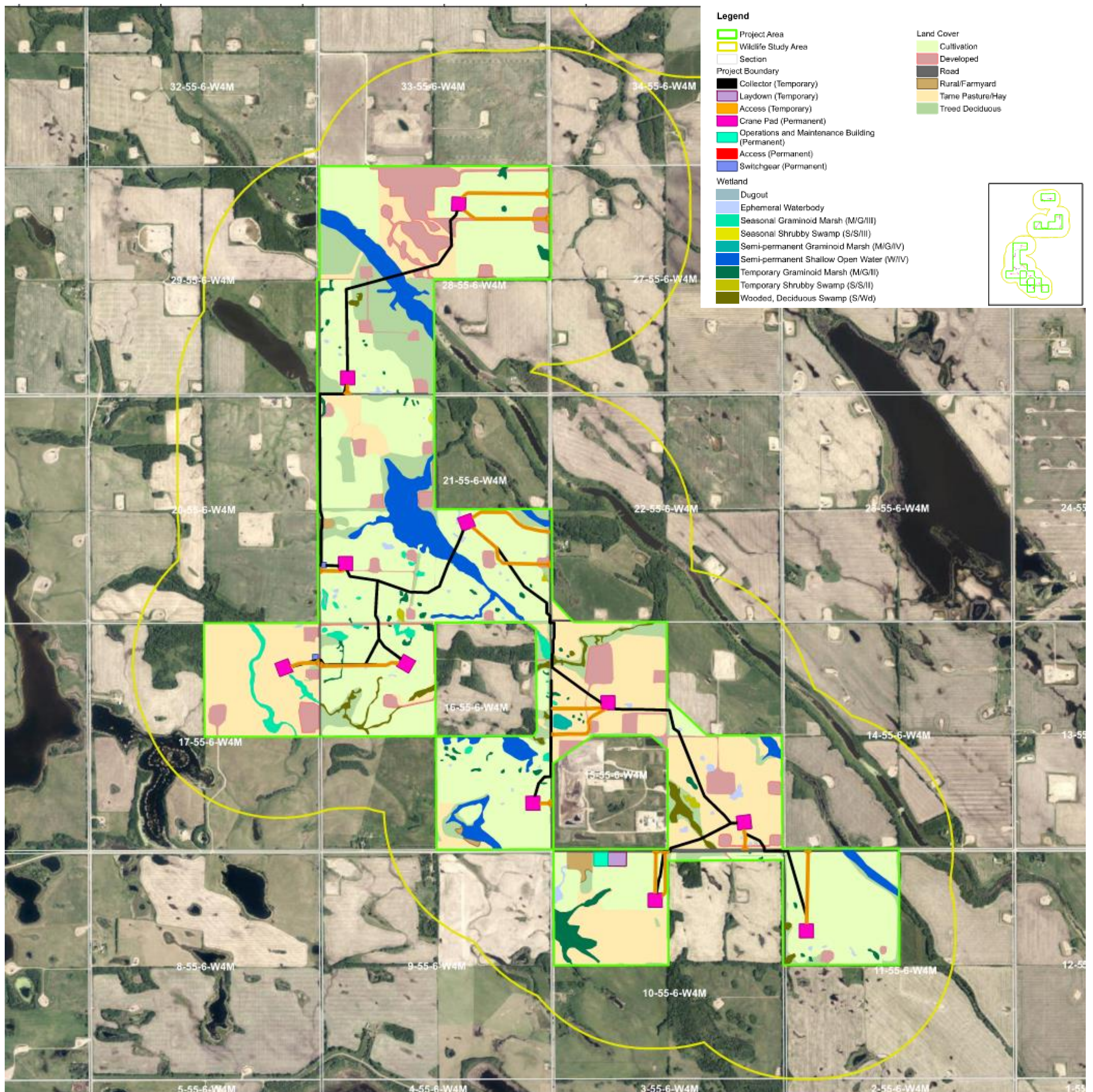
# ENVIRONMENTAL STUDIES



**Project avoids sensitive habitat areas by maximizing the use of previously disturbed areas for project infrastructure:**

- The project is sited on land previously used for farming, oil and gas infrastructure and other rural residential lands uses.
- The project avoids disturbance to sensitive habitat areas including native grasslands, wooded areas, wetlands, and water courses as well as prescribed setback areas from sensitive habitats.
- Where project infrastructure such as collector lines cross sensitive environmental areas, mitigation measures such as scheduling work in reduced risk windows or directional drilling will be used to avoid effects on these habitats.

# ENVIRONMENTAL STUDIES



Environmental field studies are used to document use of the project areas by wildlife, birds and bats:

- Several raptor nests were identified in the project area. Turbines are sited outside of the nest setbacks prescribed by Alberta Environment regulations.
- Fall and spring migratory surveys and breeding bird surveys were completed to document bird use, birds counts and species, bird behaviours, and timing of bird migrations.
- Acoustic surveys for bats were undertaken to document timing of bat migrations as well as species of bats that use the project area. Turbines were sited to avoid wooded areas where bat activity may be higher.

# SHADOW FLICKER STUDIES

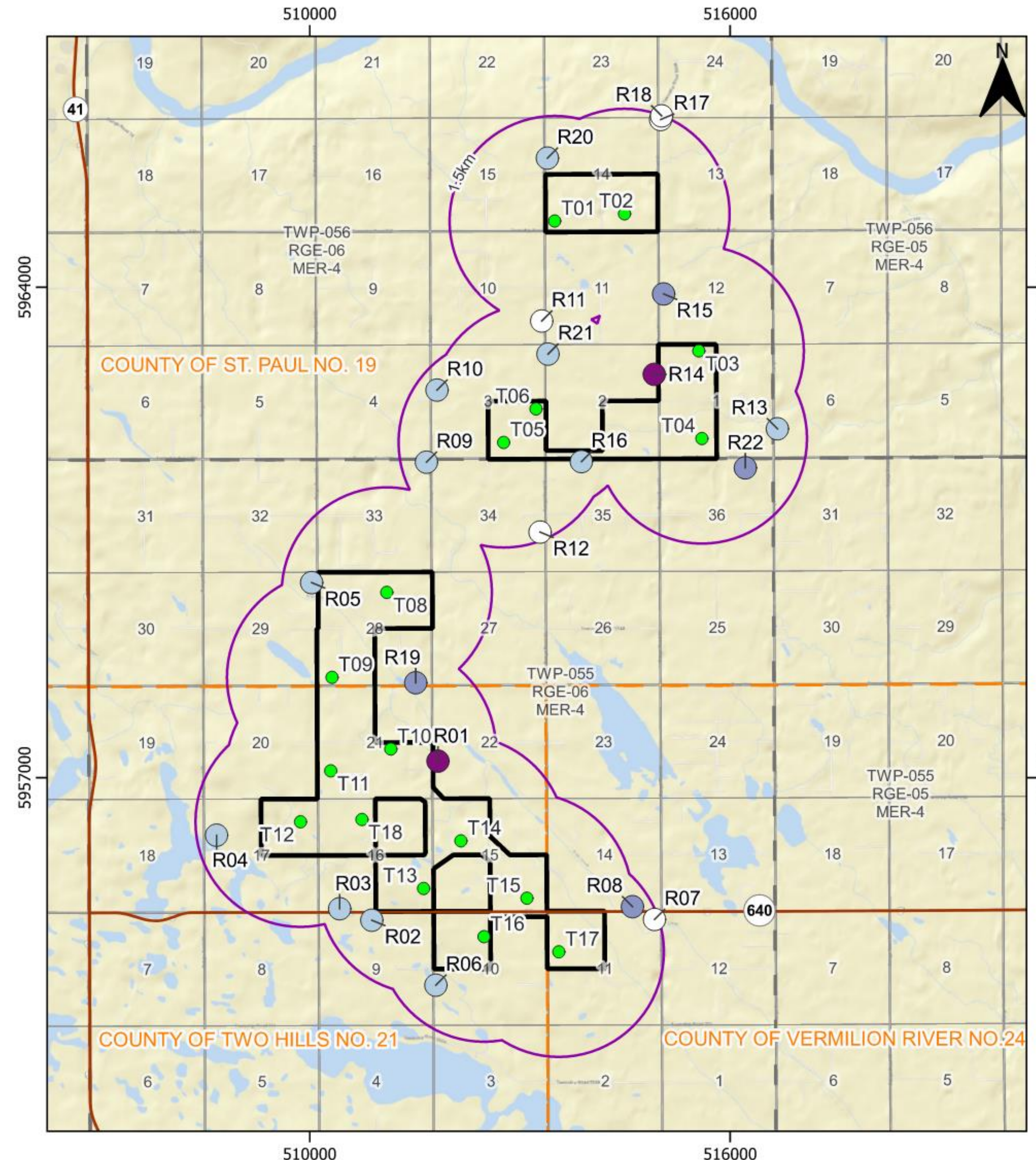


Shadow flicker occurs when the rotor of a wind turbine casts a moving shadow over a narrow opening at a residence, such as a window.

The moving shadow can cause the light levels to 'flicker'. The shadow flicker effect can only be experienced inside buildings.

The potential for shadow flicker was modelled using a conservative approach and did not account for vegetative screening or detailed window modelling.

Elemental is committed to addressing concerns related to shadow flicker if they arise. A shadow flicker management plan will be developed.



Project Name: Northern Valley Wind Project  
 Document Title: Adjusted-Case Shadow Flicker Impact Map

**Legend**

- Project Turbine
- Highway
- ▭ Project Area
- ▭ 1.5km Study Area
- County Boundary
- Section
- Township

**Shadow Flicker Receptor (hours/year)**

- 0
- 0 - 10
- 10 - 20
- 20 - 30
- 30 - 40

0 1 2 3 4 km

Coordinate System: EPSG:32612 - WGS 84 / UTM zone 12N  
 Data Credits: Northern Valley Wind Limited Partnership, Green Cat Renewables Canada Corp., AltaLIS, ESRI

Client: Northern Valley Wind Limited Partnership  
 Drawing by: Green Cat Renewables Canada Corp.

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# NOISE STUDIES



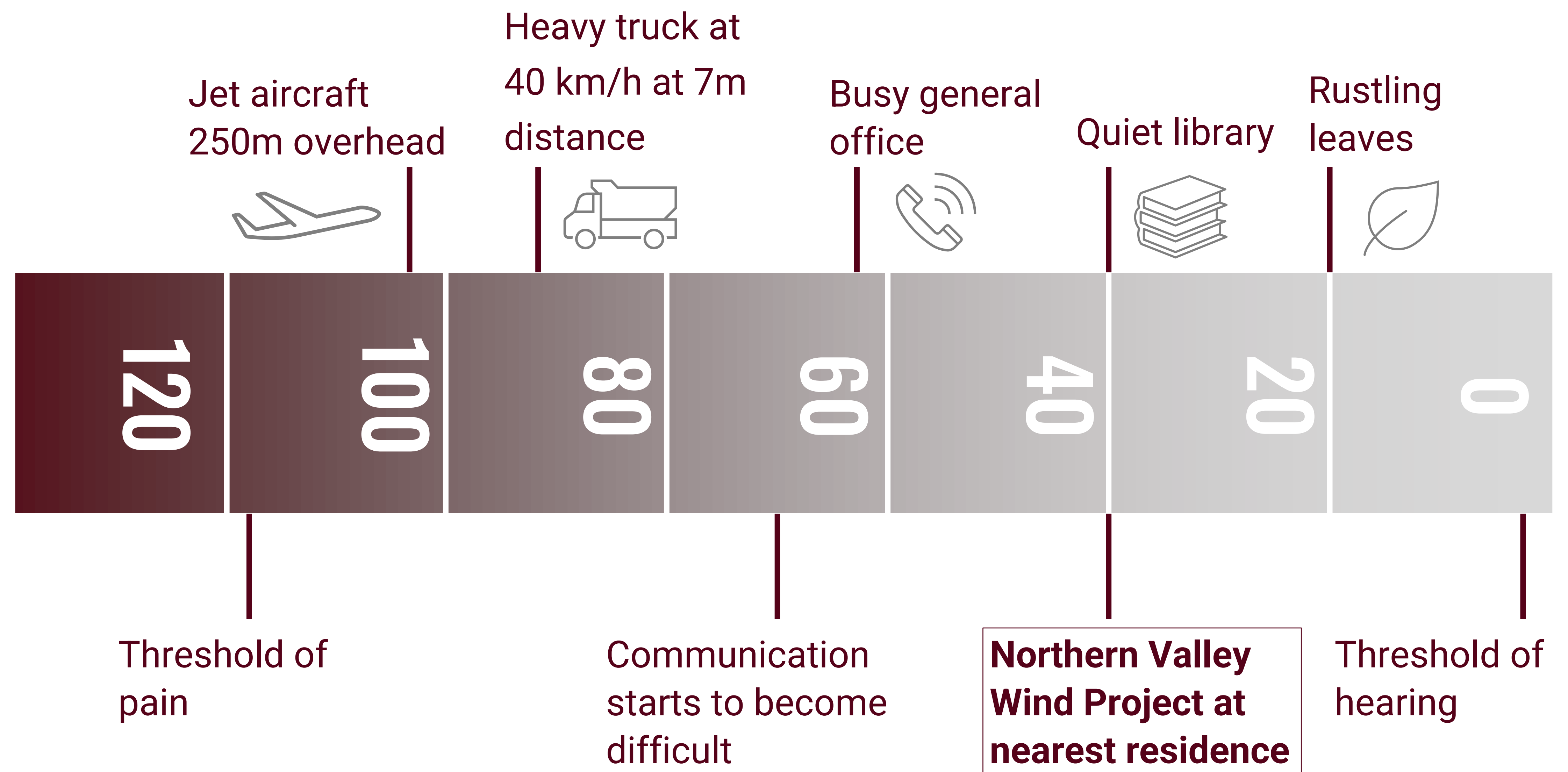
A noise assessment for the project was completed to evaluate noise produced by the project and potential impacts on nearby residences.

The noise assessment measures Project noise cumulatively with noise from other energy-related facilities, to ensure noise does not exceed the permissible sound level determined in accordance with AUC Rule 012.

The predicted nighttime sound level at the nearest residence is comparable to a library

The results of the noise assessment showed that the Northern Valley Wind Project will be compliant with AUC Rule 012.

## SOUND LEVELS (dBA)



# PROJECT BENEFITS



## **\$150 MILLION CAPITAL INVESTMENT**

Construction will result in contracting opportunities for local business in various fields including land surveying, civil construction, mechanical and electrical work.

We will maximize the local procurement of gravel, concrete, and other construction materials when possible.

## **\$35 MILLION TAX REVENUE**

Counties and their constituents will benefit from significant tax revenues over the life of the project.

This will result in increased county services or a reduction in taxes paid by the taxpayer.

## **100,000 TCO<sub>2</sub>/YR AVOIDED EMISSIONS**

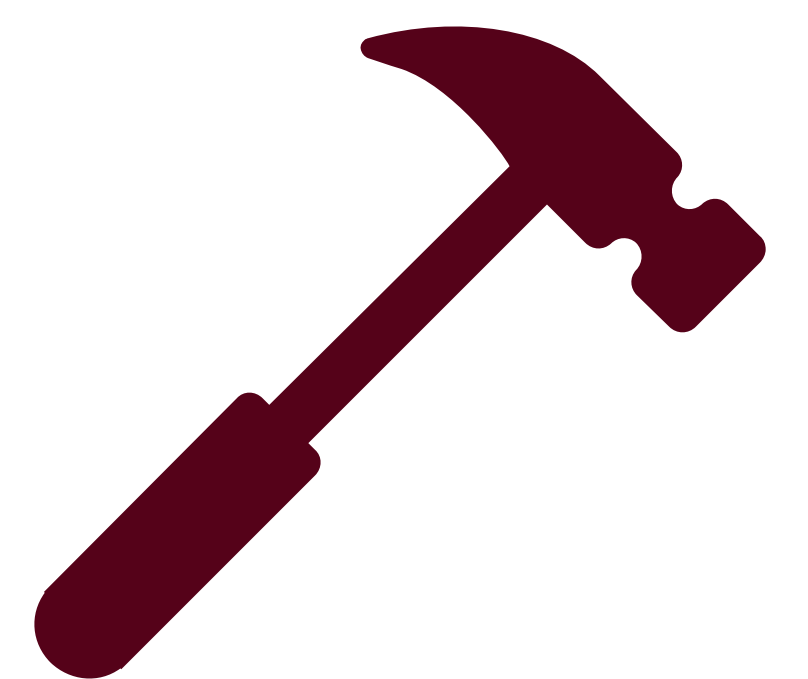
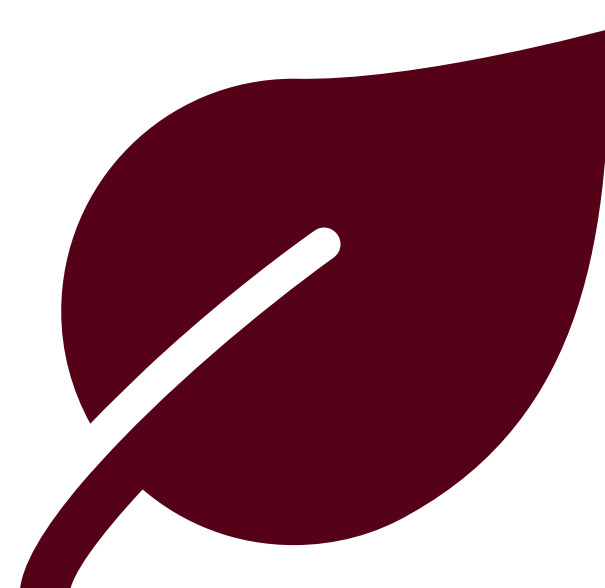
The project will generate electricity with no associated emissions and will offset other high emitting sources of electricity on Alberta's grid.

The project will produce enough clean energy to power 30,000 houses per year.

## **100 JOBS EMPLOYMENT**

Approximately 100 jobs anticipated to be created during construction.

4 to 10 FTE jobs throughout the 35 years of operations.



\* All numbers are estimates and subject to final project details

# THANK YOU FOR ATTENDING



We are committed to ongoing dialogue with interested individuals and stakeholders. Please take a moment to complete a **“Feedback Form”** to share your thoughts on the proposed project.

If you have any outstanding questions or concerns, we invite you to speak to one of our representatives today. If you prefer to get in touch with us later our contact information is:

**(604) 648-6630**

**[development@elementalenergy.ca](mailto:development@elementalenergy.ca)**

**[www.nothernvalleywind.ca](http://www.nothernvalleywind.ca)**

