



**ALLETE Clean Energy – Glen Ullin Energy Center 2024 Tree
and Shrub Survival Report**

GUEC (PU-11-662)

174 PU-11-662 Filed 06/05/2024 Pages: 17
2024 Tree and Shrub Survival Report
Allete, Inc.
Tiana Heger, Executive Assistant



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Introduction

In 2021 ALLETE Clean Energy (ACE) completed construction of its Glen Ullin Energy Center (Project) (PU-11-662), located in Morton and Mercer Counties, ND. During construction of the Project, some trees and shrubs were removed.

In accordance with the Certification Relating to Order Provision 21 of the ND Public Service Commission (PSC) Site Permit issued August 29, 2012 and the PSC Tree and Shrub Mitigation Specifications issued March 13, 2019, ALLETE Clean Energy developed a Tree and Shrub Mitigation Plan to facilitate Tree and Shrub Mitigation associated with the Project (Appendix A). The Plan was filed with the PSC prior to beginning mitigation activities. The Plan specified the replacement of trees and shrubs disturbed during construction to minimize any associated environmental impacts.

Post-construction tree and shrub surveys were performed by Western Ecosystems Technology Inc. on behalf of the Glen Ullin Energy Center in July 2021. The surveys identified that seven shrubs (all chokecherry) and 20 trees (14 siberian elms, 6 green ash) were removed during construction. A copy of the post construction survey report is included as Attachment B.

Per PSC Tree and Shrub Mitigation Specifications (specifications), mitigation species were planted at a ratio of at least 2:1 for every tree/shrub removed during construction. The Project used a mitigation ratio that exceeded PSC specifications.

Mitigation activities occurred in 2022 at the Project's alternate mitigation site shown in Appendix C. The planting effort included 45 Chokecherry shrubs, 54 Siberian Elm and 27 Green ash (Appendix D). Tree and shrub species were specifically chosen for the local soil and growing conditions and planted to provide long-term benefit to landowners, farmers and ranchers, the community, wildlife and the environment.

The following is ALLETE Clean Energy's 2024 Tree and Shrub Survival Report for the Project along with corresponding pictures of trees/shrubs within the mitigation site.



Survival Report

The Project performed a two-year survival survey of its mitigation site in the spring of 2024. Below, Table 1-1 outlines the corresponding survival rates and percent survival for all trees/shrubs planted.

Table 1-1	Number needed for 2:1 Ratio	Number Observed	Mitigation % Survival*
Trees	40	81	202%
Shrubs	14	45	321%

* Mitigation % Survival greater than 100%, exceeds mitigation requirements

Results/Conclusion

Upon review of the 2024 survey results, the Project has met all mitigation survival ratios per PSC specifications. No additional tree and shrub mitigation activities are required.







Appendix A

Glen Ullin Energy Center Tree and Shrub Mitigation Plan



July 27, 2021

VIA E-MAIL

North Dakota Public Service Commission
c/o Steven Kahl, Executive Secretary
600 E. Boulevard Ave., Dept. 408
Bismarck, ND 58505

**RE: 100 MW Clean Energy #1 Wind Project-Mercer & Morton Counties
Case No. PU-11-662**

Dear Mr. Kahl:

On July 6, 2021, in compliance with the North Dakota Public Service Commission's ("Commission") August 29, 2012 order, point 35, in the above referenced Case Number, as well as Item 1 in the Commission's June 15, 2021 Notice of Noncompliance, ALLETE Clean Energy ("Company") submitted the design specifications for the construction of the energy conversion facility. In that letter the Company noted that Item 2 in the Notice of Noncompliance would be submitted by August 15, 2021 and would request an applicable site permit. ALLETE Clean Energy was able to complete the Tree and Shrub Mitigation Specifications ("Specifications") ahead of what was previously communicated and hereby submits the attached in compliance with the Commission's March 13, 2019 Specifications. In addition, as noted in the Commission's June 15, 2021 Notice, the Company requests an amendment to the August 29, 2012 Order to instead comply with the Commission's March 13, 2019 simplified version of the Tree and Shrub Mitigation Specifications. Thank you for bringing that version to the Company's attention.

If you have any questions, or need additional information, please contact me at 218-723-3963 or dmoeller@allete.com.

Yours truly,

A handwritten signature in black ink that reads "David R. Moeller".

David R. Moeller

DRM:th



Glen Ullin Energy Center Tree and Shrub Mitigation Plan Glen Ullin Energy Center Wind Project, North Dakota

To: North Dakota Public Service Commission
From: Daniel McCartney, ALLETE Inc.
Date: July 23, 2021

Re: Tree and Shrub Mitigation Plan

BACKGROUND

The Glen Ullin Energy Center Wind Project located in Morton and Mercer Counties, ND, was constructed throughout 2019 with final close out completed in 2021. During construction, some trees and shrub were removed to facilitate construction. In accordance with the Certification Relating to Order Provision 21 of the ND Public Service Commission (PSC) Site Permit issued August 29, 2012 and the PSC Tree and Shrub Mitigation Specifications issued March 13, 2019, the Glen Ullin Energy Center respectfully submits this proposed Tree and Shrub Mitigation Plan for PSC review and approval.

Post construction tree and shrub surveys were performed by Western Ecosystems Technology Inc. on behalf of the Glen Ullin Energy Center in July 2021. The surveys identified that seven shrubs (all chokecherry) and 20 trees (14 siberian elms, 6 green ash) were removed during construction. A copy of the post construction survey report is included as Attachment A.

Two landowners were contacted to inquire whether they would prefer to have the mitigation plantings take place on their property or on an alternate mitigation site identified by the Glen Ullin Energy Center. In both cases, the landowners opted to use the Glen Ullin Energy Center's alternate mitigation site. A copy of the signed waivers are included in Attachment B.

Mitigation Plan

The Glen Ullin Energy Center proposes to mitigate all impacted chokecherry shrubs with seedlings of the same species. The tree species removed during construction consisted of both green ash and siberian elm (a non-native species in ND). The Glen Ullin Energy Center proposes to mitigate all impacted tree species with green ash seedlings to ensure that all tree and shrub mitigation species planted are native to ND.

All species will be planted at a ratio of at least 2:1 at Glen Ullin Energy Center's alternate mitigation site shown on Attachment C.

Planting is scheduled for spring 2022. Survival surveys will be conducted two years post planting and results will be filed with the PSC.



Appendix B

Post Construction Tree and Shrub Inventory



Attachment A

ENVIRONMENTAL & STATISTICAL CONSULTANTS

4007 State Street, Suite 109. Bismarck, North Dakota 58503
Phone: 701-250-1756 ♦ www.west-inc.com ♦ Fax: 701-250-1761

Date: July 14, 2021

To: Daniel McCourtney – ALLETE Clean Energy

From: Martin Piorkowski– Western EcoSystems Technology, Inc.

Subject: Glen Ullin Wind Project – Post-construction Tree and Shrub Inventory

INTRODUCTION

On June 24th, 2021, ALLETE Clean Energy (ALLETE) contracted Western EcoSystems Technology, Inc. (WEST) to conduct a post-construction tree and shrub inventory at the Glen Ullin Wind Energy Center (Project), in Mercer and Morton counties, North Dakota. Geographic Information System (GIS) files were provided by ALLETE for a post-construction survey and inventory effort to compare with pre-construction survey efforts to document any tree and/or shrub removal associated with the construction of the Project. This included what species and how many trees/shrubs (or stems) were removed during the construction of the phase.

METHODS

ALLETE provided GIS files for 133 pre-construction tree and shrub polygons for a post-construction survey and inventory effort. These polygons were mapped for field survey efforts. Field surveys included a visual inventory of all trees, shrubs, and stems within each polygon. The inventory documented the current species and status of trees and shrubs within each polygon and was then compared to pre-construction efforts provided by ALLETE. The following results summarize changes in either individual trees/shrubs or the stem count.

RESULTS

GIS exercises and desktop analyses were completed on June 28, 2021 with follow-up field surveys completed June 30 – July 2, 2021. Each of the 133 tree/shrub polygons provided by ALLETE were surveyed and inventoried. Seventeen polygons were identified as having some sort of tree or shrub removal. Seven shrubs and ten tree polygons (Table 1) were altered during construction removing the individuals. In total, seven shrubs and 20 trees were removed. Figure 1 displays the results of the inventory surveys indicating the polygons where tree/shrub removal occurred.

Attachment A

Glen Ullin Wind Energy Center – Post-construction Tree and Shrub Inventory

Table 1. Results of post-construction tree and shrub inventories at the Glen Ullin Wind Energy Center, Mercer and Morton counties, North Dakota.

ID	Scientific Name	Common Name	Individual or Clonal	Pre-Con # of Individuals	Pre-Con # of Stems	Planted or Volunteer	Tree or Shrub	Post-Con # of Individuals	Post-Con # of Stems	Post-Con Notes
27	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	30	Volunteer	Shrub	0	0	Total Removal
30	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	5	Volunteer	Shrub	0	0	Total Removal
45	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	15	Volunteer	Shrub	0	0	Total Removal
44	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	50	Volunteer	Shrub	0	0	Total Removal
42	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	25	Volunteer	Shrub	0	0	Total Removal
43	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	8	Volunteer	Shrub	0	0	Total Removal
50	<i>Prunus virginiana</i>	Chokecherry	Clonal	1	7	Volunteer	Shrub	0	0	Total Removal
59	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
60	<i>Ulmus pumila</i>	Siberian Elm	Individuals	4	0	Volunteer	Tree	0	0	Total Removal
62	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
61	<i>Ulmus pumila</i>	Siberian Elm	Individuals	2	0	Volunteer	Tree	0	0	Total Removal
63	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
64	<i>Ulmus pumila</i>	Siberian Elm	Individuals	2	0	Volunteer	Tree	0	0	Total Removal
65	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
66	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
67	<i>Ulmus pumila</i>	Siberian Elm	Individuals	1	0	Volunteer	Tree	0	0	Total Removal
79	<i>Fraxinus pennsylvanica</i>	Green Ash	Individuals	36	0	Planted	Tree	30	0	6 Individuals removed

Pre-Con = Pre-Construction, Post-Con = Post-Construction

Attachment A

Glen Ullin Wind Energy Center – Post-construction Tree and Shrub Inventory

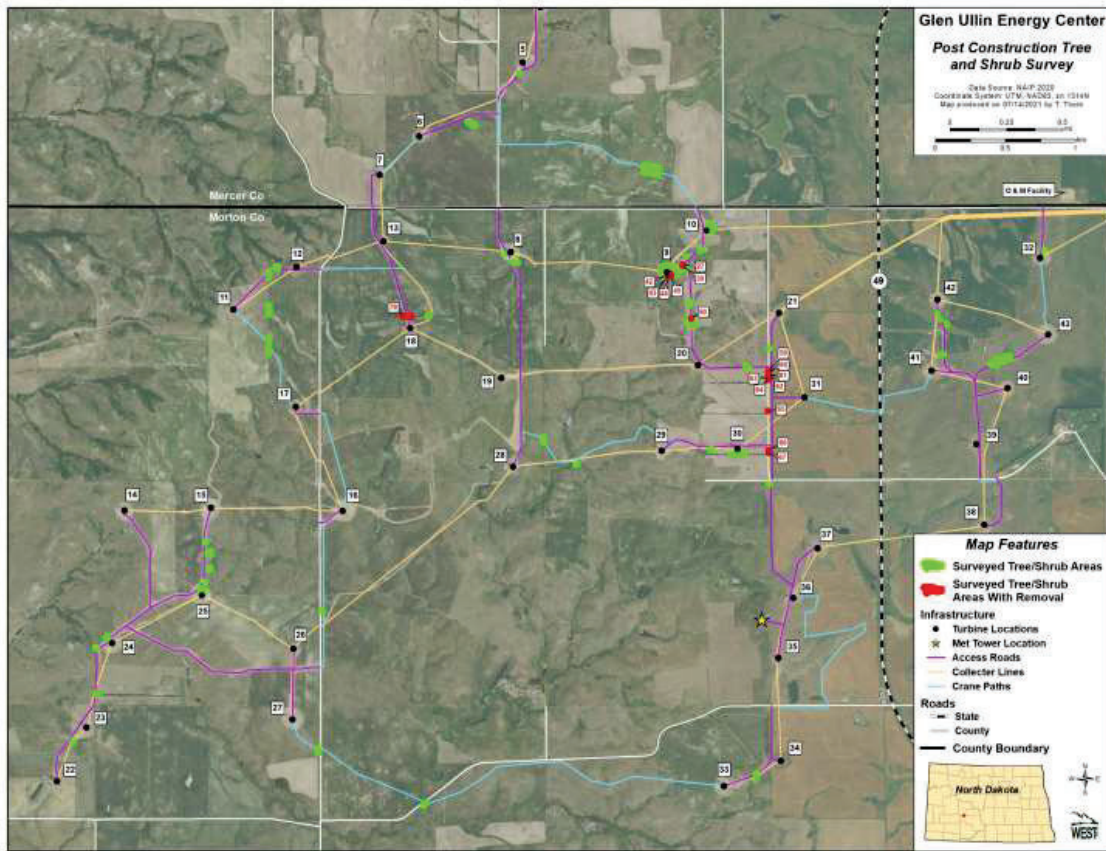


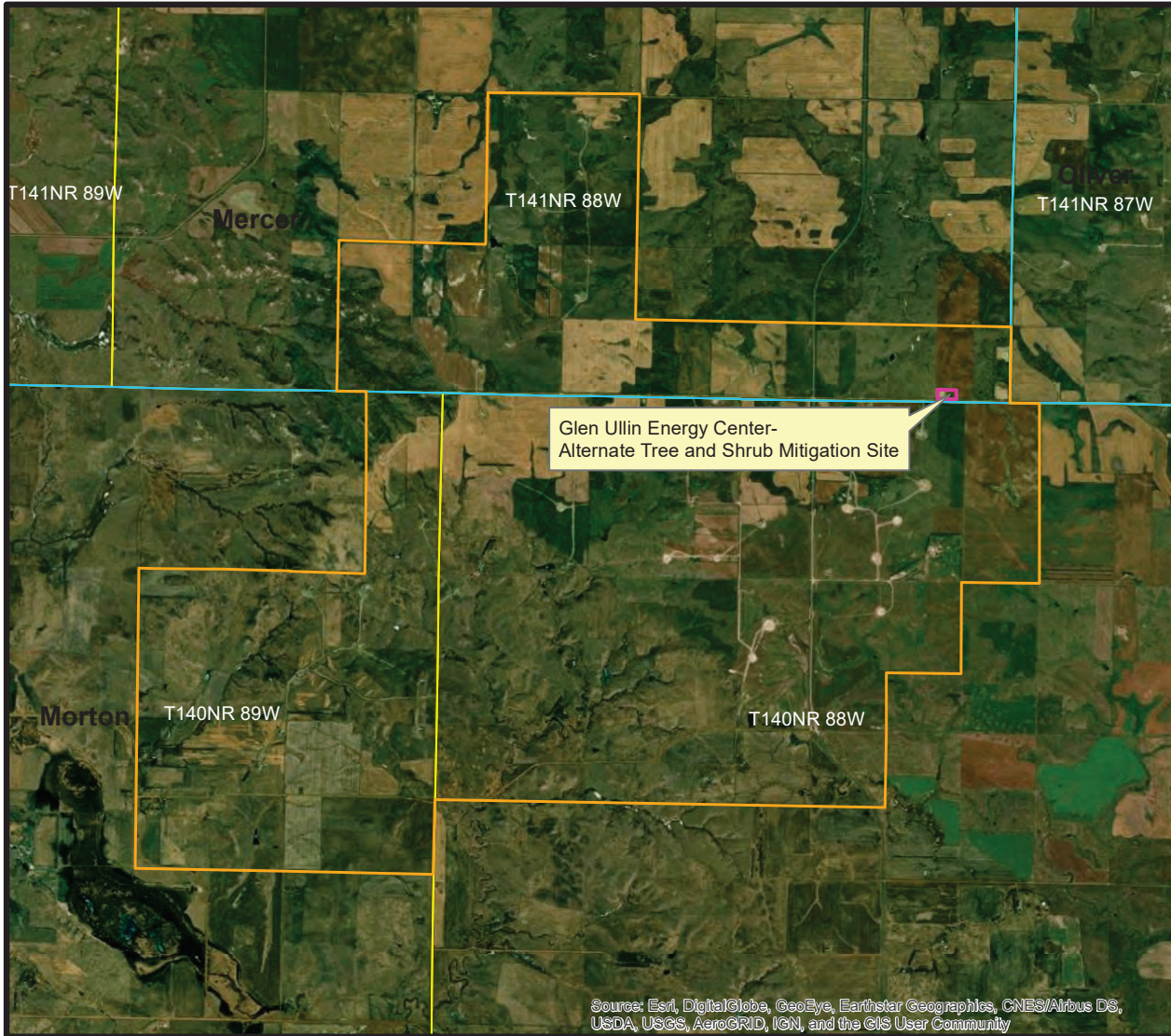
Figure 1: Changes in tree and shrub inventories between pre-construction and post-construction inventories at the Glen Ullin Wind Energy Center, Mercer and Morton counties, North Dakota.



Appendix C

Alternate Mitigation Site

Glen Ullin Energy Center- Alternate Tree and Shrub Mitigation Site



Attachment C

07/23/21

Legend

- GUEC Alternate Mitigation Site
- GUEC Project Boundary
- County Boundary
- Township Lone



1.5 Miles



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Appendix D

Tree and Shrub Planting Worksheet

ND - NRCS

WESTERN ND - TREE AND SHRUB PLANTING WORKSHEET

ND-CPA-4, Rev. 03-2017

Name **Allete Energy** Address **6043 30th St SW Glen Ullin, ND 58631** Phone # **O: 348-3398 C: 640-3000** Date: **10/26/2021**

Plan Sketch Map



Quarter **SE 1/4** Section **36** Twnshp **141** Range **88**
 Planned Soil Mapunit / name component(s) **E0415A** Planned by: **ST** Date:
 Approved by:
 Conservation Tree & Shrub Group **4** Select MLRA **54**
 Type of Planting **New**
 Landuse **Other** Program
 Site Preparation **Fallow** Protected from livestock? **Yes**
 Site conditions at planting time:
 Spacing between rows: **12** feet
 Distance from Windward row to roads or bldgs.: feet
 (Minimum 200' on N & W, and 100' on S & E) Planted by:
Remarks on site prep, conditions and management (Weed Cor Date:
 Mitchell Bettenhausen -mbettenhausen@alletecleanenergy.com Mitigation planting. Start rows from W at beginning of chainlink; Stop rows 30 feet from E. end of fence; Stay off chainlink fence 15 feet.

This practice installation **MEETS** / **DOES NOT MEET** the ND FOTG standards and specifications. (circle one)

Checkout by:		Date:		Certified By:		Date:								
Planting No.	Planned Length	Planted Length	Planned Width	Acres	Row #	Primary Species of Tree or Shrub	Type or Variety	Alternating Specie	Planned Spacing in row	Row Spacing (installed)	Number Planned (est)	Number Planted (installed)	Primary Specie / CTSG Suitability	Alternating Specie / CTSG Suitability
A	270		16	0.10		Chokecherry, comm			6		45		suitable	
	270					Elm, Siberian			10		27		suitable	
	270					Elm, Siberian			10		27		suitable	
	270					Ash, Green			10		27		suitable	
		1080	16	0.10	Totals						126		WEST -TREEPLAN	