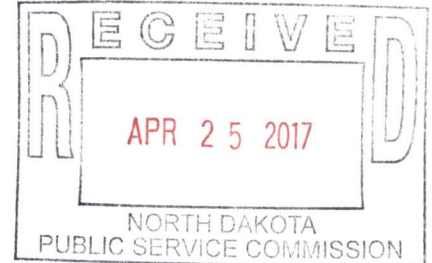


April 25, 2017

**VIA HAND-DELIVERY**

Mr. Darrell Nitschke  
Executive Secretary  
North Dakota Public Service Commission  
600 E. Boulevard, Dept. 408  
Bismarck, ND 58505-0480



**Re: Dakota Access, LLC  
Case No. PU-14-842**

Dear Mr. Nitschke:

Enclosed for filing in the above entitled matter, please find an original and ten (10) copies of Dakota Access, LLC's North Dakota Tree and Shrub Replacement Plan and Certificate of Service.

Also enclosed is a CD containing the above-referenced documents in PDF format. Should you have any questions, please advise.

Sincerely,

A handwritten signature in blue ink, appearing to read "Lawrence Bender".

LAWRENCE BENDER

LB/ber  
Enclosures

cc: John Schuh – via e-mail  
Julie Prescott – via e-mail

61244100\_2.docx

Attorneys & Advisors  
main 701.221.8700  
fax 701.221.8750  
fredlaw.com

Fredrikson & Byron, P.A.  
1133 College Drive, Suit  
Bismarck, North Dakota  
58501-1215

**281 PU-14-842** Filed: 4/25/2017 Pages: 12  
**Tree and Shrub Replacement Plan**

# **DAKOTA ACCESS PIPELINE PROJECT**

## **North Dakota Tree and Shrub Replacement Plan**

**Prepared for:**

**North Dakota Public Service Commission**

**Prepared by:**

**KC HARVEY ENVIRONMENTAL, LLC  
376 Gallatin Park Drive  
Bozeman, Montana 59715**



**DAKOTA ACCESS, LLC**

## Introduction

This document outlines the tree and shrub replanting plan that Dakota Access, LLC, will use to replant the trees and shrubs that were removed for construction of the Dakota Access Pipeline (DAPL). The approximately 1,134 mile pipeline will transport crude oil from Stanley, North Dakota, to Patoka, Illinois. The North Dakota portion of the DAPL Project is approximately 359 miles in length traverses seven counties (Montrail, Williams, McKenzie, Dunn, Mercer, Morton, and Emmons) and includes six tank terminals with pump stations and other appurtenances.

The construction right-of-way (ROW) is 75 to 150 feet wide, inclusive of 30 to 50 feet of permanent right-of-way (PROW) and up to 100 feet of temporary work space; additional temporary workspace (ATWS) of varying sizes was utilized as proposed and needed typically at specific crossing locations including roads, waterbodies, rail roads, foreign pipelines, etc. The PROW will be maintained in an herbaceous state for the lifetime of the pipeline. Dakota Access, LLC agrees to comply with all stipulations in the State of North Dakota Public Service Commission's (PSC) Tree and Shrub Mitigation Specifications, including the items outlined in this document.

## Field Inventory

The DAPL North Dakota Tree and Shrub Sampling Plan was submitted to the PSC in March 2015 prior to the field inventory effort, and the DAPL North Dakota Tree and Shrub Inventory Report was submitted to the PSC in May of 2015. Dakota Access, LLC recorded the numbers and species of trees and shrubs in the project corridor inclusive of ancillary facility footprints. The field inventory of trees and shrubs present on the ROW and PROW occurred in fall 2014 and spring of 2015, prior to construction. Data collected during the pre-construction inventory included:

- Date of inventory
- Field crew ID conducting inventory
- County and GPS location
- Site acreage
- Plot number
- Feature IDs of associated spatial points
- Species names
- Number of individual trees or shrubs

Replacement counts for the final ROW and ATWS were adjusted based on actual removal document during construction. The tree and shrub field inventory identified 59 unique species of trees and shrubs along the Dakota Access Pipeline ROW. **Table 1** shows the number and species removed and the required number and species of replacements.

**Table 1. Tree and shrub species present on the Dakota Access Pipeline ROW.**

Common Name	Inventoried Counts	Replacement Counts <sup>1</sup>
American bittersweet	8	16
American black currant	1,033	2,066
American elm	304	608
American Hazelnut	1268	2,536
American plum	72	144
Amur honeysuckle	200	400
Amur maple	8	16
Bay willow	1	2
Beaked Hazel	118	236
Black Hills Spruce	19	38
Blue spruce	1	2
Boxelder maple	114	228
Bur oak	619	1,238
Canadian gooseberry	1,785	3,570
Chokecherry	602	1,204
Clove currant	793	1,586
Common buckthorn	1,188	2,376
Common juniper	67	134
Eastern cottonwood	231	462
Eastern redcedar	15	30
four wing saltbush	84	168
Fragrant sumac	99	198
Golden currant	912	1,824
Greasewood	226	452
Green Ash	3,618	7,236
Hawthorn	2,154	4,308
Horizontal juniper	126	252
Indigo Bush	16	32
Japanese elm	1	2
Leadplant	22	44
Lilac	18	36
Long-leaved sage	49	98
Missouri River willow	198	396
Multiflora rose	7	14
Nannyberry viburnum	980	1,960
Paper birch	17	34
Peachleaf willow	30	60
Pin cherry	625	1,250

Common Name	Inventoried Counts	Replacement Counts <sup>1</sup>
Poison ivy	3	6
Ponderosa Pine	59	118
Prairie rose	212	424
Quaking aspen	312	624
Rabbitbrush	552	1,104
Red raspberry	788	1,576
Redosier dogwood	1,935	3,870
Rocky Mountain juniper	238	476
Russian olive	254	508
Sand cherry	314	628
Sand Sagebrush	21	42
Sandbar willow	5,532	11,064
Serviceberry	106	212
Shrubby cinquefoil	1,633	3,266
Siberian elm	1,604	3,208
Siberian peashrub	193	386
Silver buffaloberry	1,187	2,374
Silver Sage	7,664	15,328
Silverberry	573	1,146
skunkbush sumac	28	56
Snowberry	728	1,456
Tartarian honeysuckle	856	1712
Water birch	6	12
White willow	3	6
Winterfat	94	188
Woods rose	125	250
<b>Total</b>	<b>42,648</b>	<b>85,296</b>

<sup>1</sup> Replacements Counts are based on a 2:1 ratio of the Inventoried Counts as required by the PSC.

## Replanting Plan

During construction, tree and shrub species within the right-of-way (ROW) were avoided where practical. The trees and shrubs that were removed within the ROW will be replaced at a 2:1 ratio. DAPL is electing to replant approximately 10% additional trees and shrubs above the 2:1 ratio in an attempt to account for losses and still achieve the required successful reestablishment of trees and shrubs. This will result in a total count of approximately 93,826 trees and shrubs planted. Woody species within the 50 foot PROW were removed, and the PROW will remain free of tree or shrubs to maintain the integrity of the pipeline. Therefore, trees and shrubs removed from the PROW will be replaced outside the PROW.

Trees and shrubs identified for tree removal along the DAPL Project would require replacement planting ratios based on the type of vegetation removed (planted or native growth area) and the level of Project disturbance as defined in the Tree and Shrub Mitigation Specifications and summarized below:

- In windbreaks, shelterbelts and other planted areas, trees or shrubs, regardless of size would be replaced at a 2:1 ratio.
- In native growth areas, trees anticipated to be cleared that are 1 inch DBH or greater would be replaced at a 2:1 ratio.
- In native growth areas, shrubs anticipated to be cleared in the permanent ROW (50-footwide) would be replaced at a 2:1 ratio (two stem cuttings for one shrub removed).
- In native growth areas outside of the permanent ROW, shrub inventory and replacement would not be required if shrubs are allowed to regenerate naturally provided:
  - Shrubs are cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock; or
  - If the native topsoil is preserved and replaced after construction.

Due to the large number of plantings required and the availability of planting stock, species substitutions were made. This includes substitutions for any non-native invasive species that identified during the inventory. **Table 2** provides a summary of the species replaced and size of available plant stock.

**Table 2. Selected tree and shrub species and size.**

Replacement Species	Species Replaced	Size
<b>Shrubs</b>		
American hazelnut		Seedling/ 2-3'
American plum	Woods rose, Silverberry, Snowberry	Seedling/ 2-3'
Aromatic sumac	Fragrant sumac	
Common chokecherry	Siberian peashrub, Pin cherry, Common buckthorn, Chokecherry, sandbar willow, Missouri river willow	Seedling/ 2-3'
Golden currant	American bittersweet, American black current, Amur honeysuckle, Canadian gooseberry, Clove current, Four-wing saltbrush, Greasewood, Horizontal juniper, Long-leaved sage, Poison ivy, Rabbitbrush, Sand sagebrush, Shrubby cinquefoil, Silver sage, Tartarian honeysuckle, Winterfat, Red raspberry	Seedling/ 2-3'
Downy Hawthorne	Hawthorn	Seedling/ 2-3'
Juneberry	Serviceberry, Prairie Rose, Multiflora rose	Plug 6-12"
Common Lilac	Hawthorn	Seedling/ 2-3'
Nannyberry viburnum		Seedling/ 2-3'
Redosier dogwood		Seedling/ 2-3'
Sandbar willow		Seedling/ 2-3'
Sand cherry		Seedling/ 2-3'
Silver buffaloberry		Plug 6-12"

Replacement Species	Species Replaced	Size
Skunkbush sumac		Seedling/ 2-3'
<b>Trees</b>		
Amur maple	Beaked hazel	Seedling/ 2-3'
Black Hills Spruce		Bare Root 8-15"
Colorado blue spruce		Bare Root 8-15"
Boxelder	Siberian elm, Boxelder maple	Seedling/ 2-3'
Bur oak		Plug 6-15"
Eastern redcedar		Bare Root 8-15"
Hackberry	Bur oak	Plug 6-15"
Green Ash		Seedling/ 2-3'
Native Cottonwood	Japanese elm, American elm, Eastern cottonwood	Seedling/ 2-3'
Paper birch		Seedling/ 2-3'
Peachleaf willow		Seedling/ 2-3'
Ponderosa Pine	Russian Olive	Bare Root 8-15"
Quaking aspen		Plug 8-15"
Rocky Mountain juniper	Common juniper	Bare Root 8-15"
Sharpleaf Willow	Water birch	Seedling/ 2-3'

Following the PSC guidelines, in native growth areas within the PROW the shrubs will be replaced outside of the PROW. However, where possible in native growth areas outside of the PROW (i.e. in the Construction ROW and ATWS), shrubs have been cut flush with the ground to leave the root stock and seed bank in place allowing for natural regeneration. In all areas of soil disturbance, the soil has been replaced to allow for natural regeneration of the shrubs from the roots stock and seeds retained within the topsoil. Snowberry shrubs propagate naturally from root segments (rhizomes), and prairie rose regenerates from seed and sprouting root crowns. The snowberry and rose will sprout following mowing or cutting to regenerate naturally along the pipeline. Their root segments and seed will be preserved in topsoil and re-distributed along the ROW during restoration.

The juniper will be re-planted because it does not regenerate well from root stock in the soil. The chokecherry, silverberry and silver buffaloberry can regenerate from root stock; however, where replaced they will be direct planted to ensure their establishment. These species will be replanted at a 2:1 ratio in the approximate location they were removed or in an area preferred by the landowner.

Replacement plants will be secured through the Morton County Conservation Districts. Trees will be at least two-year-old saplings, and shrubs will be seedlings. In the case of an invasive or noxious species removal, two similar non-invasive or non-noxious species suitable for North Dakota growing conditions as recommended by the NDFS will be replanted in its place. Upon approval of this plan, trees and shrubs will be planted in spring 2017 when soils are moist to improve plant establishment. DAPL proposes to commence replanting the first week of May 2017.

The landowner where each tree or shrub removal occurred has been contacted regarding the replacement planning. Not all landowner elected to have replacement trees and shrubs planted. This resulted in surplus plants that will be reallocated to other locations where different landowners desired additional planting to occur. All landowners have been given the option to have the plantings located in the vicinity of the removed plants or planted in windrows or shelterbelts or elsewhere on the respective landowner's property at their discretion. Replacing the trees and shrubs in windrows may help improve survival as irrigation and maintenance would be more feasible. **Table 3** provides a summary of the number of planting locations anticipated in each county and planting locations are identified on the maps appended to this report. Upon completion of planting, a baseline report will be prepared to document the final replacement count and species for each location. This will include any alternative or additional locations to achieve the total replacement count.

**Table 3. Replacement trees and shrubs participants by county.**

County	Number of Parcels with Replacement Planting
Mountrail	7
Williams	40
McKenzie	34
Dunn	23
Mercer <sup>1</sup>	23
Morton	7
Emmons <sup>1</sup>	22

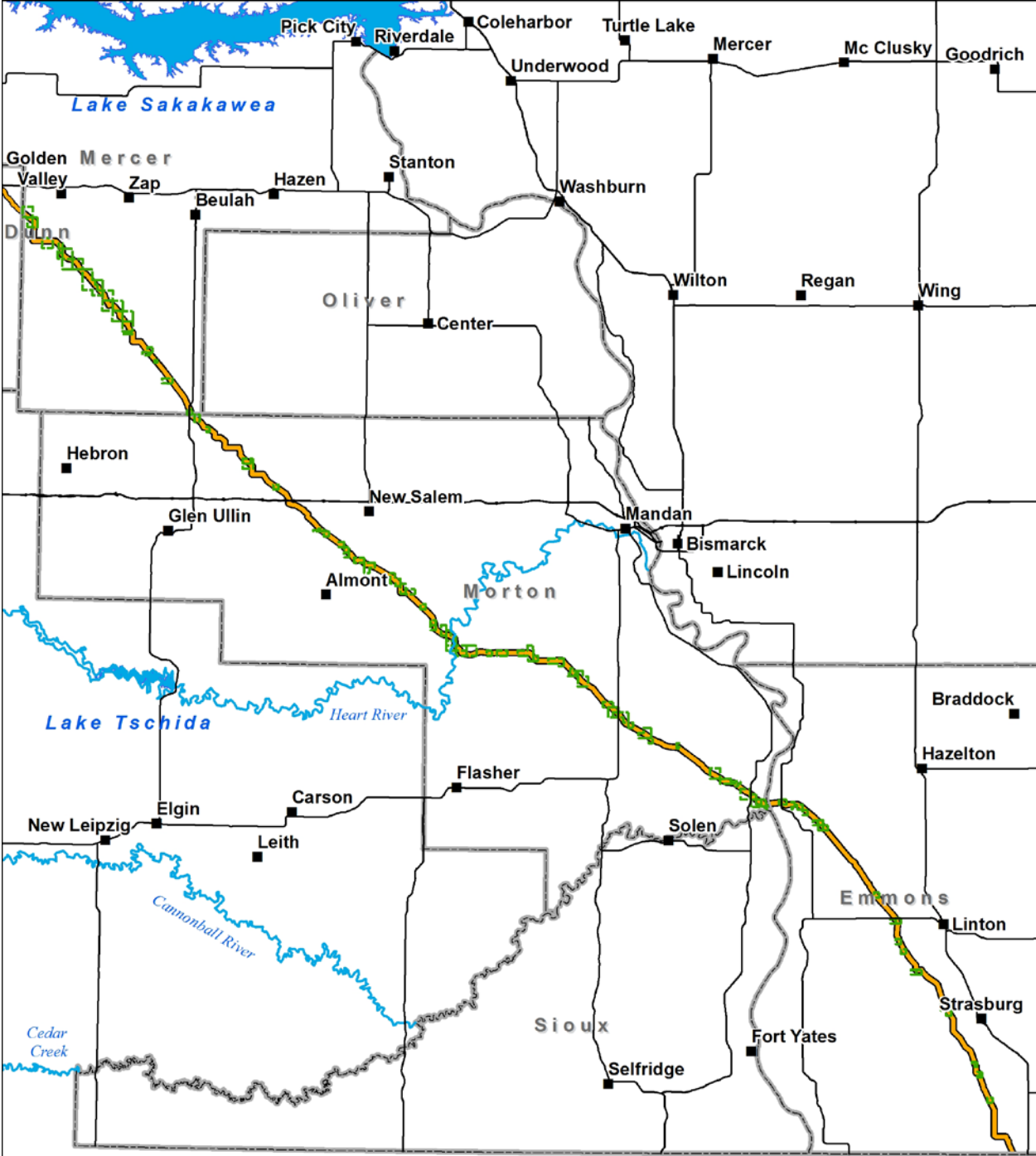
<sup>1</sup>The number of planting locations in Mercer and Emmons counties may be reduced to account for consolidation of planting into windrows and shelterbelts.

## Monitoring

All tree and shrub replacements will be inspected annually in September for three years following planting to monitor survival rate. This will include the areas where natural regeneration is the reclamation strategy. The first annual inspection will be at least one growing season from the anniversary of the planting date. A report with the results of each annual inspection will be provided to the PSC by October of each year.



<b>KC HARVEY</b> 376 Gallatin Park Drive Bismarck, ND 58115 www.kcharvey.com		Pipeline	Parcels with Tree/Shrub Replacement	<b>Dakota Access, LLC.</b>	
		City/Town	Major River	Dakota Access Pipeline Project Tree and Shrub Replacement	
		Road	Lake Sakakawea	4/14/2017	1:700,000
		County Boundary			



<b>KC HARVEY</b> 376 Gallatin Park Drive Bozeman, MT 59715 www.kcharvey.com		Pipeline	Major Waterway	<b>Dakota Access, LLC.</b>	
		Roads	Parcels with Tree/Shrub Replacement	Dakota Access Pipeline Project Tree and Shrub Replacement	
		City/Town	County Boundary	4/14/2017	1:800,000

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF NORTH DAKOTA**

**Dakota Access, LLC  
Dakota Access Pipeline Project  
Siting Application**

**CASE NO. PU-14-842**

---

**CERTIFICATE OF SERVICE**

---

I, the undersigned, hereby certify that a true and correct copy of the following document:

- Dakota Access, LLC's North Dakota Tree and Shrub Replacement Plan

was on the 25th day of April, 2017 served by placing the same in the United States mail, postage prepaid, properly addressed to the following:

Zachary E. Pelham  
Pearce & Durick  
314 E. Thayer Ave.  
P.O. Box 400  
Bismarck, ND 58502-0400

Derrick Braaten  
Baumstark Braaten Law Partners  
109 North Fourth Street, Suite 100  
Bismarck, ND 58501-4003

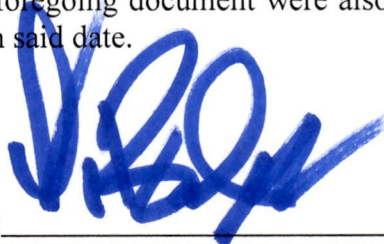
Matt J. Kelly  
Tarlow and Stonecipher, PLLC  
1705 West College Street  
Bozeman, MT 59715

Bryan Van Grinsven  
McGee, Hankla & Backes  
2400 E. Burdick Expy., Ste. 100  
Minot, ND 58702-0998

Bryan L. Giese  
Attorney at Law  
107 First Ave. NW  
Mandan, ND 58554-3150

Brian Bjella  
Blaine Johnson  
Crowley Fleck, PLLP  
100 West Broadway, Suite 250  
Bismarck, ND 58501

The original and ten (10) copies of the foregoing document were also hand delivered to the North Dakota Public Service Commission on said date.



By: \_\_\_\_\_

LAWRENCE BENDER, ND Bar #03908  
DANIELLE M. KRAUSE, ND Bar #06874  
1133 College Drive, Suite 1000  
Bismarck, North Dakota 58501  
Telephone: (701) 221-8700  
Facsimile: (701) 221-8750  
lbender@fredlaw.com  
dkrause@fredlaw.com

*Attorneys for Dakota Access, LLC*