Cenex Pipeline, LLC.

Tree and Shrub Sampling Plan

REFINED FUELS PIPELINE

SIDNEY, MT TO MINOT, ND

Prepared for

State of North Dakota Public Service Commission
Case No: PU-17-97

Prepared by

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Chapter 1 - Introduction

Cenex Pipeline, LLC. (Cenex), contracted KLJ to develop and implement a tree and shrub sampling plan for the Cenex Pipeline between Sidney, MT and Minot, ND. The pipeline route would run north from Sidney crossing the Missouri River in MT. It would then turn east crossing north of Williston, ND and continue in an easterly direction before tying into the Cenex terminal just west of Minot. Approximately 149.7 miles of 10-inch diameter refined petroleum products pipeline and associated facilities would occur in Williams, Mountrail, and Ward Counties, North Dakota.

This document outlines the methodology Cenex intends to utilize in compliance with the stipulations outlined in the PSC's Tree and Shrub Mitigation Specifications, ***please refer to Appendix A, Tree and Shrub Mitigation Specifications.*** During the public hearing and in the North Dakota (ND) Public Service Commission (PSC) issued Findings of Fact, Conclusions of Law and Order for the project (Case No. PU-17-97), Cenex agreed to adhere to the stipulation outlined in the Tree and Shrub Mitigation Specifications. In accordance with the Order, this Tree and Shrub Sampling Plan identifies the methodology proposed for sampling and commitment for tree mitigation.

Chapter 2 - Sampling Methodology

2.1. Direct Count

Inventory methodology will vary throughout the entire 149.7-mile ROW. In locations where feasible given distribution and terrain, woody vegetation in windbreaks, shelterbelts and other planted areas anticipated to be cleared, regardless of size, will be inventoried for replacement utilizing the direct count method. In these locations woody vegetation will be identified either by a point or polygon collected in the field utilizing a tablet and Trimble R1 Integrated GNSS System receiver. The point or polygon will contain the following information per identification by an Environmental Inspector (EI):

- Date/EI Name
- GPS Location
- Pipeline ROW Stationing
- Number of trees or shrubs
    - Species and size class

Location data will be collected and stored utilizing the esri ArcGIS online data management system. The EI may choose to record the data manually if conditions in the field dictate. The EI will utilize the Tree and Shrub Inventory Form located in Appendix B when manually recording.

2.2. Representative Sample

In wooded areas such as forested or riparian corridors, dense and overgrown shelterbelts, or stands of woody vegetation that prevent accurate direct counts, the representative sample method will be utilized.

These areas will be inventoried by recording a polygon for the area of woody vegetation occurring within the ROW. Dependent upon the area, vegetative density, and variation of species within the wooded area one or more representative sample plots will be taken. Sample plot sizes will consist of a 10-foot by 10-foot square and will be selected randomly throughout the wooded area if more than one sample plot is required. Data collected within the sample plot will consist of:

- Date/EI Name
- GPS Location
- Pipeline ROW Stationing
- Number of trees or shrubs
    - Species and size class

Locations of random plots will be determined by the EI. The EI will utilize one point on the boundary of the wooded area as the start point for random sampling. The EI will choose a number from ***Appendix B, Random Number Table***. The EI will walk the number of paces chosen within the wooded area until the chosen number is reached and stake out a 10-foot by 10-foot square for sampling. The EI will then walk the number of paces for the square below the chosen number and stake another a 10-foot by 10-foot square. The EI will continue this process until a sufficient number of plots has been established. It is recommended that there is one plot for every 0.10 acre of wooded area, however, number of plot determinations may be altered in the field dependent upon the situation. The ratio of number of trees or shrubs identified in the representative sample plot(s) will be used to identify the overall number of trees or shrubs within the total wooded area.

Chapter 3 - Construction Inventory and Tree Mitigation

3.1. Construction Inventory

Impacts to wooded areas and individual trees and shrubs will vary throughout the ROW and is dependent on conditions and workspace. The contractor will work to minimize impacts during construction when feasible. In areas where impacts to woody vegetation occur, an EI will inventory the impacts during construction. All impacts will be recorded in the same manner as the initial tree inventory, as applicable, via polygon or point. In areas where the random sampling method was utilized, the cleared area will be identified, and the impacts will be extrapolated from the previously quantified data.

3.2. Mitigation

A detailed tree and shrub mitigation plan will be completed once tree and shrub impacts are accurately identified. The tree and shrub mitigation plan will include the number and variety of trees and shrubs removed as part of the project, and will also identify the proposed number, variety, type, location, and anticipated date of tree and shrub replacement plantings for the project. The detailed tree and shrub mitigation plan will be submitted to the Commission for approval prior to tree and shrub replacement.

APPENDIX A

Tree and Shrub Mitigation Specifications

STATE OF NORTH DAKOTA

PUBLIC SERVICE COMMISSION

Cenex Pipeline, LLC **Case No. PU-17-97**
10" Refined Fuels Pipeline Williams, Mountrail, Ward
Siting Application

Tree and Shrub Mitigation Specifications

Inventory

1. Trees and shrubs anticipated to be cleared, including those that are considered invasive species or noxious weeds (*e.g., Caragana arborescens, Elaeagnus angustifolia, Rhamnus cathartica, Tamarix chinensis, T. parviflora, T. ramosissima, Ulmus pumila*), must be inventoried before cutting. The inventory must record the location, number, and species of trees and shrubs.

2. In windbreaks, shelterbelts and other planted areas, trees or shrubs anticipated to be cleared, regardless of size, must be inventoried for replacement.

3. In native growth areas, trees anticipated to be cleared that are 1 inch diameter at breast height (dbh) or greater must be inventoried for replacement.

4. In native growth areas, shrubs anticipated to be cleared in the permanent right-of-way must be inventoried for replacement.

5. In native growth areas outside the permanent right-of-way, shrubs must be cut flush with the surface of the ground, taking care to leave the naturally occurring seed bank and root stock intact. If soil disturbance is necessary, the native topsoil must be preserved and replaced after construction. Shrubs must be allowed to regenerate naturally where native topsoil is preserved and replaced. Where native topsoil is not preserved and replaced, shrubs anticipated to be cleared must be inventoried for replacement.

6. In native growth areas, trees and shrubs may be inventoried by actual count or by a sampling method that will properly represent the woody vegetation

population. A sampling plan developed by the company, filed with the North Dakota Public Service Commission (Commission) and approved prior to the start of construction must define the sampling method to be used for trees, for tall shrubs and for low shrubs. The data from the sample plots must be extrapolated to the total acreage of the wooded area to be cleared to determine the species and quantity of trees and shrubs to be replaced.

Clearing for Construction

7. Trees and shrubs must be selectively cleared, leaving mature trees and shrubs intact where practical.

8. The maximum width of clear cuts through windbreaks, shelterbelts and all other wooded areas is 50 feet, unless otherwise approved by the Commission.

9. If the area of trees or shrubs actually cleared differs from the area inventoried, the difference in number of trees and shrubs to be replaced must be noted on the inventory.

Replacement

10. Prior to tree and shrub replacement, documentation identifying the number and variety of trees and shrubs removed, as well as the mitigation plan for the proposed number, variety, type, location and date of replacement plantings, must be filed with and approved by the Commission.

11. Two 2-year-old saplings must be planted for every one tree removed. Two shrubs (stem cuttings) must be planted for every one shrub removed.

12. Except in the case of invasive or noxious species, trees and shrubs must be replaced by the same species or similar species, suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service. Invasive or noxious species must be replaced by similar non-invasive or non-

noxious species suitable for North Dakota growing conditions as recommended by the North Dakota Forest Service.

13. Tree and shrub replacement must not be conducted within a 20 to 30 foot wide path over the pipeline to facilitate visual inspections of the right-of-way in accordance with U.S. Department of Transportation safety regulations.

14. Landowners must be given the option of having replacement trees and shrubs planted on the landowner's property, either on or off the right-of-way. The landowner must also be given the opportunity to waive those options in writing in order to have replacement trees and shrubs planted off the landowner's property.

15. At the conclusion of the project, documentation identifying the actual number, variety, type, location and date of the replacement plantings must be filed with the Commission.

16. Tree and shrub replacements must be inspected annually, in September, for three years. The first annual inspection must be at least one year from the anniversary date of the original plantings. A report of each annual inspection must be submitted to the Commission by October 1 of each year, documenting the condition of plantings and any woodlands work completed as of September of each year. If after the third annual report the survival rate is less than 75%, the Commission may order additional planting(s).

APPENDIX B

Tree and Shrub Inventory Form

Cenex Tree and Shrub Inventory Form

Name:	Date:

Location (Station Number)	Species	Number of Individuals*	Number Removed	Notes

*** In native growth areas, trees anticipated to be cleared that are 1 inch diameter at breast height (dbh) or greater must be inventoried for replacement.**

APPENDIX C

Random Number Table

Cenex Sampling Random Number Table									
48	37	17	77	95	96	92	03	73	60
74	33	57	56	86	93	99	83	31	46
16	81	85	25	79	88	35	75	02	51
44	97	62	68	76	26	98	22	49	34
27	10	28	91	38	41	04	43	53	69
78	06	64	89	87	19	15	63	47	13
12	21	40	08	82	29	67	58	09	30
18	65	54	80	14	42	59	23	36	84
01	32	39	11	24	50	20	52	72	66
07	61	05	45	90	71	55	70	94	