



**Lake County Forest Preserve District – Carbon Planting Project
Project Design Document – Year 4**

Table of Contents

INSTRUCTIONS.....	2
PROJECT OVERVIEW	3
PROJECT AND PLANTING DESIGN UPDATES	3
CARBON QUANTIFICATION DOCUMENTATION (Section 12 and Appendix B)	3
CO-BENEFITS QUANTIFICATION DOCUMENTATION (Section 12 and Appendix A)	6
ADDITIONALITY (Section 4)	6
ADDITIONAL INFORMATION	7
SIGNATURE.....	7
ATTACHMENTS.....	8

INSTRUCTIONS

Project Operators must complete and submit this Project Design Document (PDD) to request credits after the third anniversary of the Credit Commencement Date. City Forest Credits then reviews this PDD as part of the validation process along with all other required project documents. An approved third-party verifier then does an independent check of all documents and compliance with the Protocol, known as verification. An updated PDD will need to be submitted for future verification at Year 6 and After Year 25.

Project Operators should enter data and supporting attachments starting on page 3 under Project Overview where you find “[Enter text here]” as thoroughly as possible and provide numbered attachments for maps and other documentation (ex: 1 – Regional Map). Keep all instructions in the document.

Below is a list of documents that are needed to complete a successful Year 4 Project Design Document:

For the Single Tree Planting Design:

- Carbon Quantification Year 4 Credit tool
- Tree Sampling Data
- Geocoded photos
- Project geospatial data, if there have been changes (KML file or shapefile)

For the Cluster Planting Design

- Project Area imaging from any telemetry, imaging, or remote sensing service
- i-Tree Canopy report
- i-Tree Canopy source data
- Project geospatial data, if there have been changes (KML file or shapefile)
- Carbon Quantification Year 4 Credit tool

For the Area Reforestation Planting Design (previously Canopy Design):

- Either:
 - Project Area imaging from any telemetry, imaging, or remote sensing service
 - i-Tree Canopy report
 - i-Tree Canopy source data
- Or:
 - Tree plot sampling data
- Project geospatial data, if there have been changes (KML file or shapefile)
- Carbon Quantification Year 4 Credit tool
- Summary of approach to quantifying the local CO₂ index

PROJECT OVERVIEW

Project Name: Lake County Forest Preserve District – Carbon Planting Project

Project Number: 020

Project Type: Planting Project

Project Start Date: October 29, 2021

Project Location: Multiple locations within the Lake County Forest Preserve District, Lake County, Illinois

Project Operator Name: Lake County Forest Preserve District

Project Operator Contact Information: Matthew Ueltzen, Manager of Restoration Ecology;

muelitzen@lcpd.org; (o) 847-968-3290, (m) 847-276-6230

PROJECT AND PLANTING DESIGN UPDATES

Include information on changes to the project including tree survival, ownership, or other relevant updates.

Trees were installed in three consecutive years (2019-2021) at multiple sites throughout Lake County, Illinois. In total, 2,960 trees were submitted for carbon credits (across roughly 445 acres). Original carbon credits were based on 'single tree' quantification. When performing the Year-4 monitoring, it was noted that the original quantification method would not be appropriate for this project and City Forest Credits advised the Lake County Forest Preserve District to switch to the 'clustered' quantification method. Additional modifications were made to the number of trees included for credits due to unforeseen monitoring methods when using (switching to) the 'clustered' quantification method, i.e. aerial photography interpretation. Some planting polygons were removed due to pre-project canopy interference that hindered analysis. The new proposed total is 2,121 trees across 62 acres. The large reduction in project acres is due in part to some polygon removals, but also due to re-mapping of actual planting areas. The original project design counted entire habitat areas (larger acreages) where trees were installed; current mapping depicts only tree planting areas within those larger habitat areas.

There have not been any changes to the ownership of the trees and the Lake County Forest Preserve District has maintained and monitored the trees for the duration of the project.

There has not been any known, significant tree mortality to date. No trees have been replaced thus far.

CARBON QUANTIFICATION DOCUMENTATION (Section 12 and Appendix B)

Describe and summarize the planting design, sampling, and appropriate quantification/measurement method for the project – Single Tree, Clustered, or Area Reforestation. Include the project's climate zone and method of data collection. Outline the estimated total number of credits to be issued to the project over 25 years as well as the amount to be issued upon successful validation and verification in Year 4. Attach the quantification tool and appropriate sampling tool.

List of quantification Tools by planting method (CFC to provide guidance and resources):

- 1) *Single Tree - single tree quantification tool*
- 2) *Clustered - cluster quantification tool*
- 3) *Area Reforestation - quantification with CO₂ calculated per acre*

To ensure performance of the credits, Project Operators must commit to the following at Year 4, with additional requirements at Year 6 and after Year 25 based on the appropriate quantification method.

1) Single Tree

- a. *Year 4: Project Operators must generate a random sample of project tree sites using the Single Tree Quantification Tool. Project Operators must visit those sampled tree sites and collect data on whether the sample contains a live tree, standing dead tree, or no tree. Provide geocoded photos or imaging of a minimum sample of 20% of the trees. The tracking file includes a column where each tree is assigned a unique serial number to help with tracking each coordinate and tree picture or image.*
 - i. *Based on this data, the number and species of project trees is adjusted and a new CO₂ projected amount by after Year 25 is generated.*

2) Clustered

- a. *Year 4: Project Operators provide images of the Project Area from any telemetry, imaging, remote sensing, i-Tree Canopy, or UAV service, such as Google Earth and estimate the area in tree canopy cover (acres). Imaging from Google Earth with leaf-on may be used. Project Operators will calculate the percent of canopy cover from the Google Earth imaging. Projects can use i-Tree Canopy and point sampling to calculate canopy cover. Using i-Tree Canopy, continue adding points until the standard error of the estimate for both the tree and non-tree cover is less than 5%. i-Tree Canopy will supply you with the standard errors. If tree canopy cover is determined using another approach, such as image classification, a short description of the approach should be provided, as well as the QA/QC measures that were used. A tree cover classification accuracy assessment should be conducted, as with randomly placed points, and the percentage tree cover classification accuracy reported.*
 - i. *If the canopy coverage equals or exceeds 2.8% (400 trees per acre with an average canopy area of 3.14 square feet per tree (2-foot diameter of canopy) is 2.8% of an acre), then the credits projected in the Clustered Quantification Tool may be issued. If canopy coverage is below 2.8%, then the number of credits issued is reduced by the same percentage as the canopy coverage falls below 2.8%.*

3) Area Reforestation (formerly Canopy planting design)

- a. *Year 4: Project Operators must either conduct a physical tree count using plots or use imaging to determine canopy coverage at Year 4.*
 - i. *If the canopy coverage equals or exceeds 2.8% (400 trees per acre with an average canopy area of 3.14 square feet per tree (2-foot diameter of canopy) is 2.8% of an acre), then the credits projected in the Quantification Tool may be issued. If canopy coverage is below 2.8%, then the number of credits issued is reduced by the same percentage as the canopy coverage falls below 2.8%.*

Overview

2,121 trees have been planted for carbon credits across ~62 acres. This project utilizes the clustered quantification methodology. Trees were installed from September, 2019 through October, 2021. White oak (*Quercus alba*), bur oak (*Quercus macrocarpa*) and American plum (*Prunus americana*) were the most-planted species throughout project areas.

Data Collection

For the clustered methodology, pre-project and current aerial photographs were utilized in GIS for sampling. Due to the change from single tree to clustered quantification, some original planting polygons were removed from the project, due to existing tree canopy with obstructed aerial photo interpretation. Additionally, the original planting polygons were modified to reflect the minimum area planted – when previously, the entire habitat restoration area was included in the polygon, even if the majority of the area was not actually planted. ArcGIS was utilized for mapping planting polygons and for the generation of random points, both pre-project and Year 4 (unique points for each). 541 random points were assessed for tree presence at each point and recorded in GIS. 5.91% of the pre-project points contained canopy, whereas 29.02% of the Year 4 points contained canopy. The 5.91% existing canopy cover before the project started was deducted from the overall total credits issued to the project.

There has not been any known, significant tree mortality to date.

Attachments: 2 LCFPD Midwest Quantification_Year 4
3 LCFPD Canopy Analysis_Year 4

Carbon Quantification

Total number of trees planted	2,121
Project area (acres), if applicable	62
Total number of trees per acre, if applicable	NA
Credits attributed to the project (tCO ₂ e)	5,459
Credits after mortality deduction (20% or insert observed mortality, if greater)	4,367
Credits after Year 0 existing canopy deduction	4,109
Contribution to Registry Reversal Pool Account (5%) (tCO ₂ e)	205
Total credits to be issued to the Project Operator (tCO₂e)	3,904
Total credits requested to be issued at Year 4	1,561 (1,337 to be issued in year 4 to account for initial crediting discrepancy)

GHG Assertion:

Project Operator asserts that the Project results in GHG emissions mitigation of 3,904 tons CO₂e over the 25-year Project Duration. Project Operator asserts that, per Protocol guidelines, 40% of the Project GHG emissions mitigation is issued at Year 4, or 1,337 tons CO₂e.

Due to the change from single-tree methodology and quantification to the clustered methodology, the total credits issued to the project has been reduced to 3,904.

The updated Projected CO₂ stored and credit issuance over 26 years is outlined below:

Single Tree Plantings	Projection at Initial Crediting	Updated Projection at Year 4
Total credits issued at Initial Crediting (10% CO ₂ (t))	615	390
Total credits to be issued at Year 4 (40% CO ₂ (t))	2462	1,561 (1,337 to be issued in year 4 to account for initial crediting discrepancy)
Total credits to be issued at Year 6 (30% CO ₂ (t))	1846	1,171
Total credits to be issued at Year 26 (20% CO ₂ (t))	1231	781
Total credits to be issued (tCO₂e)	6,154	3,904

Attachment: 2 LCFPD Midwest Quantification_Year 4

CO-BENEFITS QUANTIFICATION DOCUMENTATION (Section 12 and Appendix A)

Summarize co-benefit quantification and provide supporting documentation. If necessary, update the CFC-provided Co-Benefits Quantification spreadsheet to calculate updated rainfall interception, reduction of certain air compounds, and energy savings.

Ecosystem Services	Resource Units	Value
Rainfall Interception (m ³ /yr)	10,240	\$73,310
Air Quality (t/yr)	0.3171	\$1,484
Cooling – Electricity (kWh/yr)	310,504	\$23,567
Heating – Natural Gas (kBtu/yr)	4,632,949	\$45,101
Grand Total (\$/yr)		\$143,462

Attachment: 2 LCFPD Midwest Quantification_Year 4

ADDITIONALITY (Section 4)

Complete and attach the Attestation of Additionality.

Additionality is demonstrated by Project Operators per the Protocol in the following ways and in the Attestation of Additionality. The Attestation of Additionality was not required to be signed in the Tree Planting Protocol Version [insert version number], however Project Operator met the requirements and is submitting the Attestation with this Project Design Document update.

- Project trees are not required by law or ordinance to be planted (Protocol Section 2.2). See Attestation of Planting.
- The Project did not plant trees on sites that were forested and then cleared of trees within the prior ten years
- Project trees are additional based on a project specific baseline or the Performance Standard Baseline attached to this PDD.
- Project Operator has signed a Project Implementation Agreement with City Forest Credits for 25 years.
- The 25-year Project Duration commitment is additional to and longer than any commitment the Project Operator makes to non-carbon project tree plantings.
- Project Operator has signed the Attestation of Additionality.

Attachment: 4 LCFPD Year 4 Attestation of Additionality

ADDITIONAL INFORMATION

Include additional information on changes to monitoring and reporting plans since the Initial Credit Planting Design Document was submitted.

Unfortunately, the quantification methodology used on the original application was disadvantageous for the Year 4 monitoring effort. Detailed monitoring requirements were not well understood at the time of the original application, otherwise the project design and quantification methodology may have been conducted differently. Despite reducing the number of trees and acres to conform to the 'clustered' method, LCFPD remains committed to fulfilling the obligations of this project, even if the credits are reduced. LCFPD appreciates working with City Forest Credits and their patience and support throughout this process.

SIGNATURE

Signed on July 31th in 2024, by Matthew Ueltzen, for Lake County Forest Preserve District.


Signature

MATTHEW UELTZEN
Printed Name

847-968-3290
Phone

mueltzen@LCFPD.org
Email

ATTACHMENTS

For the Single Tree Planting Design:

- 1 - Carbon Quantification Year 4 Credit tool
- 2 - Tree Sampling Data
- 3 - Geocoded photos
- 4 - Project geospatial data (KML file or shapefile)

For the Cluster Planting Design

- 1 - Project Area imaging from any telemetry, imaging, or remote sensing service
- 2 - i-Tree Canopy report
- 3 - i-Tree Canopy source data
- 4 - Project geospatial data (KML file or shapefile)
- 5 - Carbon Quantification Year 4 Credit tool

For the Area Reforestation Planting Design (previously Canopy Design):

- Either:
 - 1 - Project Area imaging from any telemetry, imaging, or remote sensing service
 - 2 - i-Tree Canopy report
 - 3 - i-Tree Canopy source data
- Or:
 - 1 - Tree plot sampling data
 - 2 - Project geospatial data (KML file or shapefile)
 - 3 - Carbon Quantification Year 4 Credit tool
 - 4 - Summary of approach to quantifying the local CO₂ index

This copy assigned to Lake County Forest Preserve District. Proprietary and confidential CFC information. Do not forward to third parties without CFC permission.

Directions
1) In Table 1 record the number of sites planted for each tree species.
2) If species are not listed, add them to the bottom of Table 1.

Table 1. Planting List

Scientific Name	Common Name	Tree-Type Abbreviation	No. Sites Planted
<i>Acer ginnala</i>	Amur maple	BDS	
<i>Acer negundo</i>	boxelder	BDM	
<i>Acer nigrum</i>	black maple	BDL	
<i>Acer palmatum</i>	Japanese maple	BDS	
<i>Acer platanoides</i>	Norway maple	BDL	
<i>Acer rubrum</i>	red maple	BDL	
<i>Acer saccharinum</i>	silver maple	BDL	
<i>Acer saccharum</i>	sugar maple	BDL	
<i>Acer species</i>	maple	BDL	
<i>Aesculus glabra</i>	Ohio buckeye	BDL	
<i>Albizia julibrissin</i>	mimosa	BDS	
<i>Alnus species</i>	alder	BDM	
<i>Amelanchier laevis</i>	serviceberry, Allegheny	BDS	
<i>Amelanchier spp.</i>	serviceberry, spp.	BDS	9
<i>Betula nigra</i>	river birch	BDM	
<i>Betula papyrifera</i>	paper birch	BDL	
<i>Betula species</i>	birch	BDM	
<i>Broadleaf Deciduous Large</i>	broadleaf deciduous large	BDL	
<i>Broadleaf Deciduous Medium</i>	broadleaf deciduous medium	BDM	
<i>Broadleaf Deciduous Small</i>	broadleaf deciduous small	BDS	
<i>Broadleaf Evergreen Large</i>	broadleaf evergreen large	BEL	
<i>Broadleaf Evergreen Medium</i>	broadleaf evergreen medium	BEM	
<i>Broadleaf Evergreen Small</i>	broadleaf evergreen small	BES	
<i>Carpinus caroliniana</i>	Musclewood	BDS	38
<i>Carya species</i>	hickory	BDL	66
<i>Castanea dentata</i>	American chestnut	BDL	
<i>Catalpa species</i>	catalpa	BDL	
<i>Catalpa speciosa</i>	northern catalpa	BDL	
<i>Celtis occidentalis</i>	northern hackberry	BDL	29
<i>Cercis canadensis</i>	eastern redbud	BDS	
<i>Cladrastis kentukea</i>	yellowwood	BDM	
<i>Conifer Evergreen Large</i>	conifer evergreen large	CEL	
<i>Conifer Evergreen Medium</i>	conifer evergreen medium	CEM	
<i>Conifer Evergreen Small</i>	conifer evergreen small	CES	
<i>Cornus florida</i>	flowering dogwood	BDS	
<i>Cornus species</i>	dogwood	BDS	38
<i>Crataegus spp.</i>	hawthorn, spp.	BDS	138
<i>Fraxinus americana</i>	white ash	BDL	
<i>Fraxinus nigra</i>	black ash	BDM	
<i>Fraxinus pennsylvanica</i>	green ash	BDL	
<i>Fraxinus species</i>	ash	BDM	
<i>Ginkgo biloba</i>	ginkgo	BDM	
<i>Gleditsia triacanthos</i>	honeylocust	BDM	
<i>Gymnocladus dioicus</i>	Kentucky coffeetree	BDL	
<i>Hamamelis virginiana</i>	Witch Hazel	BDS	6
<i>Hibiscus syriacus</i>	rose-of-sharon	BDS	
<i>Ilex opaca</i>	American holly	BES	
<i>Ilex species</i>	holly	BES	24
<i>Juglans nigra</i>	black walnut	BDL	3
<i>Juniperus species</i>	juniper	CEM	
<i>Juniperus virginiana</i>	eastern red cedar	CEM	
<i>Liquidambar styraciflua</i>	sweetgum	BDL	
<i>Liriodendron tulipifera</i>	tulip tree	BDL	
<i>Magnolia grandiflora</i>	southern magnolia	BEM	
<i>Magnolia virginiana</i>	sweetbay	BEM	
<i>Malus species</i>	apple	BDS	155
<i>Morus alba</i>	white mulberry	BDM	
<i>Morus species</i>	mulberry	BDM	
<i>Ostrya virginiana</i>	eastern hophornbeam	BDM	33
<i>Phellodendron amurense</i>	Amur corktree	BDM	
<i>Picea abies</i>	Norway spruce	CEL	
<i>Picea mariana</i>	black spruce	CEM	
<i>Picea pungens</i>	blue spruce	CEM	
<i>Picea species</i>	spruce	CEL	
<i>Pinus contorta</i>	Bolander beach pine	CES	
<i>Pinus nigra</i>	Austrian pine	CEM	
<i>Pinus ponderosa</i>	ponderosa pine	CEL	
<i>Pinus resinosa</i>	red pine	CEL	
<i>Pinus strobus</i>	eastern white pine	CEL	
<i>Pinus sylvestris</i>	Scotch pine	CEM	
<i>Pinus virginiana</i>	Virginia pine	CEM	
<i>Platanus occidentalis</i>	American sycamore	BDL	
<i>Populus deltoides</i>	eastern cottonwood	BDL	
<i>Populus nigra</i>	black poplar	BDL	
<i>Populus species</i>	cottonwood	BDL	7
<i>Populus tremuloides</i>	quaking aspen	BDL	
<i>Prunus cerasifera</i>	cherry plum	BDS	
<i>Prunus serotina</i>	black cherry	BDL	10
<i>Prunus serrulata</i>	Kwanzan cherry	BDS	
<i>Prunus species</i>	plum	BDS	239
<i>Prunus virginiana</i>	common chokecherry	BDS	103
<i>Pyrus calleryana</i>	Callery pear	BDM	
<i>Pyrus species</i>	pear	BDM	

Table 2. Summary of Planting Sites

Tree-Type	Tree-Type Abbreviation	No. Sites Planted
Brdlf Decid Large (>50 ft)	BDL	1196
Brdlf Decid Med (30-50 ft)	BDM	33
Brdlf Decid Small (<30 ft)	BDS	868
Brdlf Evgrn Large (>50 ft)	BEL	0
Brdlf Evgrn Med (30-50 ft)	BEM	0
Brdlf Evgrn Small (<30 ft)	BES	24
Conif Evgrn Large (>50 ft)	CEL	0
Conif Evgrn Med (30-50 ft)	CEM	0
Conif Evgrn Small (<30 ft)	CES	0
Total Sites Planted		2121

<i>Quercus alba</i>	white oak	BDL	426
<i>Quercus bicolor</i>	swamp white oak	BDL	64
<i>Quercus coccinea</i>	scarlet oak	BDL	
<i>Quercus ellipsoidalis</i>	northern pin oak	BDL	79
<i>Quercus macrocarpa</i>	bur oak	BDL	372
<i>Quercus nigra</i>	water oak	BEL	
<i>Quercus palustris</i>	pin oak	BDL	
<i>Quercus rubra</i>	northern red oak	BDL	65
<i>Quercus species</i>	oak	BDL	75
<i>Rhamnus species</i>	buckthorn	BDS	
<i>Rhus species</i>	sumac	BDS	142
<i>Robinia pseudoacacia</i>	black locust	BDL	
<i>Salix discolor</i>	pussy willow	BDS	
<i>Salix species</i>	willow	BDL	
<i>Sorbus species</i>	mountain ash	BDS	
<i>Syringa reticulata</i>	Japanese tree lilac	BDS	
<i>Syringa species</i>	lilac	BDS	
<i>Thuja occidentalis</i>	northern white cedar	CEL	
<i>Tilia americana</i>	American basswood	BDL	
<i>Tilia cordata</i>	littleleaf linden	BDM	
<i>Tilia species</i>	basswood	BDL	
<i>Tsuga canadensis</i>	eastern hemlock	CEL	
<i>Ulmus americana</i>	American elm	BDL	
<i>Ulmus parvifolia</i>	Chinese elm	BDL	
<i>Ulmus pumila</i>	Siberian elm	BDM	
<i>Ulmus species</i>	elm	BDL	

	A	B	C	D	E	F	G	H	I	J	K	L
1		This copy assigned to Lake County Forest Preserve District. Proprietary and confidential CFC information. Do not forward to third parties without CFC permission.										
2												
3		Directions										
4		Using the information you provide and background data, the tool calculates the amount of Credits that could be issued at years 1 (10%), 3 (40%), and 5 (30%) after planting. A mortality deductions (% loss) is applied to account for anticipated tree losses (Cell D6). A 5% buffer pool deduction is applied that will go into a program-wide pool to insure against catastrophic loss of trees. This tool is used to determine credits issued after planting (Intial Crediting). A different tool is used for credit issuance in Years 4 and 6. The tool in those years requires calculation of a sample and collection of data on tree status in the sample sites.										
5												
6		Mortality Deduction (%):	20%			Canopy Cover Observed (i-Tree Canopy)				Canopy Cover Observed (i-Tree Canopy)		
7						Year 0 Existing Tree	5.9%			Year 4 Percent Tree	29.0%	
8						Credit Adjustment	YES			Year 4 Canopy Goal	2.8%	
9										Credit Adjustment	NO	
10												
11										If Canopy Adjustment Needed:		
12										Canopy Coverage Goal	1	
13												
14		Table 3. Credits are based on 10%, 40%, and 30% at Years 1, 3, and 5 after planting, respectively, of the projected CO ₂ stored by live trees 25-years after planting. These values account for anticipated tree										
15		losses and the 5% buffer pool deduction.										
16									10%	40%	30%	20%
17			No. Sites Planted	No. Live Trees	Mortality Deduction (%)	25-yr CO ₂ stored (kg/tree)	Tot. 25-yr CO ₂ stored w/ losses and 5% deduction (t)	Year 0 Existing Canopy Deduction	10% CO ₂ (t)	40% CO ₂ (t)	30% CO ₂ (t)	20% CO ₂ (t)
18		BDL	1196	957	0.20	3,978.85	3616.6	3402.9	340.29	1361.15	1020.86	680.57
19		BDM	33	26	0.20	2,451.33	61.5	57.8	5.78	23.14	17.35	11.57
20		BDS	868	694	0.20	700.27	462.0	434.7	43.47	173.86	130.40	86.93
21		BEL	0	0	0.20	0.00	0.0	0.0	0.00	0.00	0.00	0.00
22		BEM	0	0	0.20	0.00	0.0	0.0	0.00	0.00	0.00	0.00
23		BES	24	19	0.20	475.12	8.7	8.2	0.82	3.26	2.45	1.63
24		CEL	0	0	0.20	0.00	0.0	0.0	0.00	0.00	0.00	0.00
25		CEM	0	0	0.20	0.00	0.0	0.0	0.00	0.00	0.00	0.00
26		CES	0	0	0.20	0.00	0.0	0.0	0.00	0.00	0.00	0.00
27			2121	1697	0.20	7,605.57	4148.7	3903.5	390.35	1561.41	1171.06	780.71
28												
29						Credits issued	4149	3904	390	1561	1171	781
30						Buffer Credits	218	205	21	82	62	41

	A	B	C	D	E	F	G	H	I
1		This copy assigned to Lake County Forest Preserve District. Proprietary and confidential CFC information. Do not forward to third parties without CFC permission.							
2									
3		In Table 4 the tool infers the amount of CO ₂ stored after 25 years from the sample to the population of live trees. Values in column H account for anticipated tree losses and the 5% buffer pool deduction.							
4									
5		Table 4. Grand Total CO₂ Stored after 25 years (all live trees, includes tree losses and buffer pool deduction)							
6		Tree-Type	No. Sites Planted	Mortality Deduction (%)	Total Live Trees After Mortality	25-yr CO₂ stored (kg/tree)	CO₂ Tot. - No Deductions (t)	Grand Total CO₂ w/ Deductions (t)	Year 0 Existing Canopy Deduction
7		Brdlf Decid Large (>50 ft)	1196	0.20	957	3,978.85	4,758.7	3,616.6	3402.9
8		Brdlf Decid Med (30-50 ft)	33	0.20	26	2,451.33	80.9	61.5	57.8
9		Brdlf Decid Small (<30 ft)	868	0.20	694	700.27	607.8	462.0	434.7
10		Brdlf Evgrn Large (>50 ft)	0	0.20	0	0.00	0.0	0.0	0.0
11		Brdlf Evgrn Med (30-50 ft)	0	0.20	0	0.00	0.0	0.0	0.0
12		Brdlf Evgrn Small (<30 ft)	24	0.20	19	475.12	11.4	8.7	8.2
13		Conif Evgrn Large (>50 ft)	0	0.20	0	0.00	0.0	0.0	0.0
14		Conif Evgrn Med (30-50 ft)	0	0.20	0	0.00	0.0	0.0	0.0
15		Conif Evgrn Small (<30 ft)	0	0.20	0	0.00	0.0	0.0	0.0
16			2121		1697	7606	5,458.8	4,148.7	3903.5

	A	B	C	D	E	F	G	H	I	J	K
1		This copy assigned to Lake County Forest Preserve District. Proprietary and confidential CFC information. Do not forward to third parties without CFC permission.									
2											
3		Using the information you provide and background data, the tool provides estimates of co-benefits after 25 years in Resource Units per year and \$ per year.									
4											
5		Table 7. Co-Benefits <u>per year</u> after 25 years (all live trees, includes tree losses)									
6		Ecosystem Services	Resource Units Totals	Resource Unit/site	Total \$	\$/site					
7		Rainfall Interception (m3/yr)	10,240.21	4.83	\$73,310.30	\$34.564					
8											
9		Air Quality (t/yr)									
10		O3	0.1326	0.0001	\$442.98	\$0.209					
11		NOx	0.0213	0.0000	\$71.10	\$0.034					
12		PM10	0.0698	0.0000	\$198.11	\$0.093					
13		Net VOCs	0.0934	0.0000	\$771.99	\$0.364					
14		Air Quality Total	0.3171	0.0001	\$1,484.19	\$0.70					
15		Energy (kWh/yr & kBtu/yr)									
16		Cooling - Electricity	310,504.07	146.40	\$23,567.26	\$11.11					
17		Heating - Natural Gas	4,632,948.72	2,184.32	\$45,100.51	\$21.26					
18		Energy Total (\$/yr)			\$68,667.77	\$32.38					
19		Grand Total (\$/yr)			\$143,462.26	\$67.64					
20											
21					\$3,586,556.50						

Species	GIS Polygon ID #	Latitude	Longitude	Plant Quantities
Malus ioensis	575	42.169023	-88.101797	15
Prunus americana	575	42.169023	-88.101797	50
Rhus glabra	575	42.169023	-88.101797	50
Celtis occidentalis	576	42.34072	-87.866605	10
Crataegus mollis	576	42.34072	-87.866605	30
Malus ioensis	576	42.34072	-87.866605	40
Quercus alba	576	42.34072	-87.866605	20
Quercus macrocarpa	576	42.34072	-87.866605	20
Quercus ellipsoidalis	576	42.34072	-87.866605	30
Cornus obliqua	576	42.34072	-87.866605	25
Prunus americana	576	42.34072	-87.866605	30
Prunus virginiana	576	42.34072	-87.866605	20
Quercus macrocarpa	545	42.326524	-88.126931	1
Quercus macrocarpa	542	42.327617	-88.125323	8
Quercus velutina	542	42.327617	-88.125323	1
Prunus americana	542	42.327617	-88.125323	4
Rhus glabra	542	42.327617	-88.125323	4
Quercus macrocarpa	543	42.327087	-88.122533	4
Prunus americana	543	42.327087	-88.122533	3
Quercus macrocarpa	544	42.326098	-88.12243	2
Quercus macrocarpa	546	42.325324	-88.126387	2
Rhus glabra	546	42.325324	-88.126387	5
Quercus ellipsoidalis	547	42.324846	-88.123916	1
Quercus macrocarpa	547	42.324846	-88.123916	18
Quercus velutina	547	42.324846	-88.123916	2
Prunus americana	547	42.324846	-88.123916	6
Rhus glabra	547	42.324846	-88.123916	9
Quercus macrocarpa	548	42.32345	-88.12229	6
Quercus velutina	548	42.32345	-88.12229	1
Quercus macrocarpa	549	42.321680	-88.121139	2
Rhus glabra	549	42.32168	-88.121139	5
Quercus macrocarpa	551	42.322378	-88.126366	4
Rhus glabra	551	42.322378	-88.126366	5
Quercus macrocarpa	552	42.322044	-88.127810	4
Quercus macrocarpa	550	42.324051	-88.126856	1
Quercus macrocarpa	553	42.323295	-88.127385	1
Quercus macrocarpa	554	42.323779	-88.129054	4
Quercus velutina	554	42.323779	-88.129054	1
Prunus americana	554	42.323779	-88.129054	4
Rhus glabra	554	42.323779	-88.129054	5
Quercus macrocarpa	557	42.322290	-88.130113	1
Quercus macrocarpa	555	42.323238	-88.130916	3
Quercus ellipsoidalis	556	42.322757	-88.132108	1
Quercus macrocarpa	556	42.322757	-88.132108	10
Quercus velutina	556	42.322757	-88.132108	1

Prunus americana	556	42.322757	-88.132108	4
Rhus glabra	556	42.322757	-88.132108	5
Carya ovata	558	42.327953	-88.126298	3
Celtis occidentalis	558	42.327953	-88.126298	2
Quercus alba	558	42.327953	-88.126298	13
Quercus ellipsoidalis	558	42.327953	-88.126298	1
Quercus macrocarpa	558	42.327953	-88.126298	13
Quercus velutina	558	42.327953	-88.126298	3
Prunus americana	558	42.327953	-88.126298	7
Prunus virginiana	558	42.327953	-88.126298	7
Rhus glabra	558	42.327953	-88.126298	8
Carya ovata	559	42.325495	-88.126573	2
Celtis occidentalis	559	42.325495	-88.126573	1
Quercus alba	559	42.325495	-88.126573	6
Quercus ellipsoidalis	559	42.325495	-88.126573	1
Quercus macrocarpa	559	42.325495	-88.126573	7
Quercus velutina	559	42.325495	-88.126573	2
Prunus americana	559	42.325495	-88.126573	7
Prunus virginiana	559	42.325495	-88.126573	7
Rhus glabra	559	42.325495	-88.126573	8
Carya ovata	562	42.322828	-88.128908	2
Celtis occidentalis	562	42.322828	-88.128908	1
Quercus alba	562	42.322828	-88.128908	7
Quercus ellipsoidalis	562	42.322828	-88.128908	1
Quercus macrocarpa	562	42.322828	-88.128908	7
Quercus velutina	562	42.322828	-88.128908	2
Prunus americana	562	42.322828	-88.128908	5
Prunus virginiana	562	42.322828	-88.128908	3
Rhus glabra	562	42.322828	-88.128908	4
Carya ovata	560	42.325376	-88.129551	4
Celtis occidentalis	560	42.325376	-88.129551	3
Quercus alba	560	42.325376	-88.129551	16
Quercus ellipsoidalis	560	42.325376	-88.129551	1
Quercus macrocarpa	560	42.325376	-88.129551	14
Quercus velutina	560	42.325376	-88.129551	4
Prunus americana	560	42.325376	-88.129551	8
Prunus virginiana	560	42.325376	-88.129551	8
Rhus glabra	560	42.325376	-88.129551	8
Carya ovata	561	42.323286	-88.131615	3
Celtis occidentalis	561	42.323286	-88.131615	2
Quercus alba	561	42.323286	-88.131615	10
Quercus ellipsoidalis	561	42.323286	-88.131615	1
Quercus macrocarpa	561	42.323286	-88.131615	11
Quercus velutina	561	42.323286	-88.131615	3
Prunus americana	561	42.323286	-88.131615	5
Prunus virginiana	561	42.323286	-88.131615	6
Rhus glabra	561	42.323286	-88.131615	6

Crataegus mollis	584	42.489775	-87.929414	6
Malus ioensis	584	42.489775	-87.929414	6
Prunus americana	584	42.489775	-87.929414	8
Quercus alba	588	42.491627	-87.930318	2
Quercus macrocarpa	588	42.491627	-87.930318	1
Crataegus mollis	589	42.488952	-87.931787	3
Malus ioensis	589	42.488952	-87.931787	9
Quercus alba	589	42.488952	-87.931787	14
Quercus macrocarpa	589	42.488952	-87.931787	20
Quercus velutina	589	42.488952	-87.931787	8
Prunus americana	589	42.488952	-87.931787	5
Amelanchier laevis	590	42.493152	-87.929401	6
Crataegus mollis	590	42.493152	-87.929401	10
Malus ioensis	590	42.493152	-87.929401	15
Quercus alba	590	42.493152	-87.929401	12
Quercus macrocarpa	590	42.493152	-87.929401	12
Prunus americana	590	42.493152	-87.929401	9
Crataegus mollis	591	42.486591	-87.931922	3
Malus ioensis	591	42.486591	-87.931922	3
Quercus macrocarpa	591	42.486591	-87.931922	6
Crataegus mollis	592	42.486750	-87.932604	2
Quercus macrocarpa	592	42.486750	-87.932604	2
Crataegus mollis	595	42.484847	-87.937030	6
Malus ioensis	595	42.484847	-87.937030	3
Quercus alba	595	42.484847	-87.937030	9
Quercus macrocarpa	595	42.484847	-87.937030	15
Prunus americana	595	42.484847	-87.937030	6
Amelanchier interior	191	42.344943	-88.118817	9
Carya cordiformis	191	42.344943	-88.118817	3
Carya ovata	191	42.344943	-88.118817	4
Crataegus mollis	191	42.344943	-88.118817	7
Malus ioensis	191	42.344943	-88.118817	3
Prunus serotina	191	42.344943	-88.118817	3
Quercus alba	191	42.344943	-88.118817	27
Quercus ellipsoidalis	191	42.344943	-88.118817	3
Quercus macrocarpa	191	42.344943	-88.118817	25
Quercus velutina	191	42.344943	-88.118817	3
Prunus americana	191	42.344943	-88.118817	7
Prunus virginiana	191	42.344943	-88.118817	7
Rhus glabra	191	42.344943	-88.118817	3
Carpinus caroliniana	520	42.325834	-87.944859	5
Carya cordiformis	520	42.325834	-87.944859	3
Carya ovata	520	42.325834	-87.944859	6
Crataegus mollis	520	42.325834	-87.944859	19
Ostrya virginiana	520	42.325834	-87.944859	4
Prunus serotina	520	42.325834	-87.944859	2
Quercus alba	520	42.325834	-87.944859	65

Quercus ellipsoidalis	520	42.325834	-87.944859	3
Quercus macrocarpa	520	42.325834	-87.944859	11
Quercus rubra	520	42.325834	-87.944859	15
Quercus velutina	520	42.325834	-87.944859	7
Prunus virginiana	520	42.325834	-87.944859	36
Carya cordiformis	211	42.325714	-87.946621	5
Carya ovata	211	42.325714	-87.946621	3
Crataegus mollis	211	42.325714	-87.946621	8
Ostrya virginiana	211	42.325714	-87.946621	5
Prunus serotina	211	42.325714	-87.946621	2
Prunus americana	211	42.325714	-87.946621	6
Prunus virginiana	211	42.325714	-87.946621	9
Quercus alba	211	42.325714	-87.946621	30
Crataegus mollis	636	42.323835	-87.945812	2
Malus ioensis	636	42.323835	-87.945812	2
Quercus alba	636	42.323835	-87.945812	3
Quercus macrocarpa	636	42.323835	-87.945812	3
Crataegus mollis	605	42.254735	-87.887313	1
Malus ioensis	605	42.254735	-87.887313	3
Quercus alba	605	42.254735	-87.887313	2
Crataegus mollis	606	42.255323	-87.887237	1
Quercus ellipsoidalis	606	42.255323	-87.887237	1
Quercus macrocarpa	606	42.255323	-87.887237	2
Crataegus mollis	607	42.257187	-87.890140	2
Quercus macrocarpa	607	42.257187	-87.890140	4
Crataegus mollis	608	42.255946	-87.887717	2
Malus ioensis	608	42.255946	-87.887717	4
Quercus macrocarpa	608	42.255946	-87.887717	2
Malus ioensis	609	42.257636	-87.883229	3
Quercus macrocarpa	609	42.257636	-87.883229	3
Crataegus mollis	610	42.255846	-87.888952	3
Malus ioensis	610	42.255846	-87.888952	3
Quercus macrocarpa	610	42.255846	-87.888952	3
Crataegus mollis	611	42.248812	-87.882045	3
Malus ioensis	611	42.248812	-87.882045	3
Prunus americana	611	42.248812	-87.882045	6
Crataegus mollis	612	42.241423	-87.881364	3
Malus ioensis	612	42.241423	-87.881364	3
Quercus macrocarpa	612	42.241423	-87.881364	3
Crataegus mollis	613	42.241423	-87.881364	3
Malus ioensis	613	42.241423	-87.881364	2
Quercus macrocarpa	613	42.241423	-87.881364	3
Prunus americana	613	42.241423	-87.881364	3
Crataegus mollis	614	42.241423	-87.881364	3
Prunus americana	614	42.241423	-87.881364	6
Crataegus mollis	616	42.241423	-87.881364	3
Malus ioensis	616	42.241423	-87.881364	2

Quercus macrocarpa	616	42.241423	-87.881364	3
Prunus americana	616	42.241423	-87.881364	3
Crataegus mollis	617	42.241423	-87.881364	3
Prunus americana	617	42.241423	-87.881364	6
Crataegus mollis	615	42.255465	-87.886782	2
Prunus americana	615	42.255465	-87.886782	2
Crataegus mollis	629	42.242234	-87.883216	2
Quercus macrocarpa	629	42.242234	-87.883216	1
Crataegus mollis	634	42.247407	-87.882100	3
Cornus obliqua	634	42.247407	-87.882100	2
Prunus americana	634	42.247407	-87.882100	3
Crataegus mollis	474	42.277941	-87.893397	5
Malus ioensis	474	42.277941	-87.893397	10
Prunus serotina	474	42.277941	-87.893397	1
Quercus alba	474	42.277941	-87.893397	2
Quercus macrocarpa	474	42.277941	-87.893397	2
Prunus americana	474	42.277941	-87.893397	5
Quercus bicolor	526	42.274762	-87.937400	13
Celtis occidentalis	1475	42.273058	-87.935309	3
Quercus bicolor	1475	42.273058	-87.935309	16
Quercus macrocarpa	1475	42.273058	-87.935309	3
Quercus rubra	1475	42.273058	-87.935309	3
Ilex verticillata	1475	42.273058	-87.935309	14
Carpinus caroliniana	59	42.272836	-87.933461	23
Carya cordiformis	59	42.272836	-87.933461	5
Celtis occidentalis	59	42.272836	-87.933461	3
Juglans nigra	59	42.272836	-87.933461	3
Ostrya virginiana	59	42.272836	-87.933461	22
Populus grandidentata	59	42.272836	-87.933461	5
Quercus bicolor	59	42.272836	-87.933461	5
Quercus macrocarpa	59	42.272836	-87.933461	5
Quercus rubra	59	42.272836	-87.933461	24
Hamamelis virginiana	59	42.272836	-87.933461	6
Carya ovata	527	42.272360	-87.932259	7
Quercus alba	527	42.272360	-87.932259	45
Quercus ellipsoidalis	527	42.272360	-87.932259	4
Quercus macrocarpa	527	42.272360	-87.932259	4
Quercus rubra	527	42.272360	-87.932259	6
Quercus velutina	527	42.272360	-87.932259	8
Carpinus caroliniana	649	42.209215	-87.919217	3
Crataegus mollis	649	42.209215	-87.919217	2
Malus ioensis	649	42.209215	-87.919217	3
Quercus alba	649	42.209215	-87.919217	5
Quercus bicolor	649	42.209215	-87.919217	10
Quercus macrocarpa	649	42.209215	-87.919217	5
Ilex verticillata	649	42.209215	-87.919217	4
Prunus americana	649	42.209215	-87.919217	2

Carpinus caroliniana	638	42.210321	-87.925677	3
Carya cordiformis	638	42.210321	-87.925677	1
Crataegus mollis	638	42.210321	-87.925677	1
Ostrya virginiana	638	42.210321	-87.925677	2
Prunus serotina	638	42.210321	-87.925677	1
Quercus alba	638	42.210321	-87.925677	2
Quercus velutina	638	42.210321	-87.925677	1
Hamamelis virginiana	638	42.210321	-87.925677	3
Crataegus mollis	639	42.209890	-87.926263	1
Quercus bicolor	639	42.209890	-87.926263	3
Quercus macrocarpa	639	42.209890	-87.926263	2
Salix nigra	639	42.209890	-87.926263	2
Cornus obliqua	639	42.209890	-87.926263	2
Quercus bicolor	644	42.209438	-87.924830	3
Quercus macrocarpa	644	42.209438	-87.924830	1
Ilex verticillata	644	42.209438	-87.924830	2
Quercus bicolor	600	42.217968	-87.925096	1
Ilex verticillata	600	42.217968	-87.925096	3
Carpinus caroliniana	601	42.216993	-87.925668	3
Quercus bicolor	601	42.216993	-87.925668	3
Quercus macrocarpa	601	42.216993	-87.925668	2
Ilex verticillata	601	42.216993	-87.925668	3
Carpinus caroliniana	602	42.217111	-87.926968	2
Quercus macrocarpa	602	42.217111	-87.926968	1
Carpinus caroliniana	603	42.215164	-87.926467	3
Quercus bicolor	603	42.215164	-87.926467	2
Quercus macrocarpa	603	42.215164	-87.926467	2
Cornus alternifolia	603	42.215164	-87.926467	5
Ilex verticillata	603	42.215164	-87.926467	3
Carpinus caroliniana	637	-87.928247	42.219629	2
Crataegus mollis	637	-87.928247	42.219629	2
Malus ioensis	637	-87.928247	42.219629	3
Ostrya virginiana	637	-87.928247	42.219629	1
Quercus alba	637	-87.928247	42.219629	1
Quercus macrocarpa	637	-87.928247	42.219629	3
Quercus rubra	637	-87.928247	42.219629	1
Quercus velutina	637	-87.928247	42.219629	1
Prunus americana	637	-87.928247	42.219629	3
Carpinus caroliniana	640	42.220670	-87.926052	1
Quercus bicolor	640	42.220670	-87.926052	1
Quercus bicolor	640	42.220670	-87.926052	2
Quercus macrocarpa	640	42.220670	-87.926052	1
Carya cordiformis	641	42.220791	-87.926007	1
Malus ioensis	641	42.220791	-87.926007	2
Ostrya virginiana	641	42.220791	-87.926007	1
Quercus alba	641	42.220791	-87.926007	1
Quercus macrocarpa	641	42.220791	-87.926007	1

Carpinus caroliniana	642	42.216535	-87.928336	4
Carya cordiformis	642	42.216535	-87.928336	3
Carya ovata	642	42.216535	-87.928336	2
Crataegus mollis	642	42.216535	-87.928336	2
Malus ioensis	642	42.216535	-87.928336	3
Ostrya virginiana	642	42.216535	-87.928336	2
Populus grandidentata	642	42.216535	-87.928336	2
Prunus serotina	642	42.216535	-87.928336	1
Quercus alba	642	42.216535	-87.928336	3
Quercus bicolor	642	42.216535	-87.928336	6
Quercus macrocarpa	642	42.216535	-87.928336	6
Quercus rubra	642	42.216535	-87.928336	1
Quercus velutina	642	42.216535	-87.928336	1
Cornus alternifolia	642	42.216535	-87.928336	3
Cornus obliqua	642	42.216535	-87.928336	3
Prunus americana	642	42.216535	-87.928336	6
Carpinus caroliniana	643	42.216094	-87.928010	3
Quercus bicolor	643	42.216094	-87.928010	14
Quercus macrocarpa	643	42.216094	-87.928010	5
Cornus alternifolia	643	42.216094	-87.928010	2
Cornus obliqua	643	42.216094	-87.928010	3
Ilex verticillata	643	42.216094	-87.928010	6
Amelanchier laevis	1479	42.216342	-87.858005	5
Carpinus caroliniana	1479	42.216342	-87.858005	6
Crataegus mollis	1479	42.216342	-87.858005	5
Malus ioensis	1479	42.216342	-87.858005	8
Ostrya virginiana	1479	42.216342	-87.858005	4
Cornus obliqua	1479	42.216342	-87.858005	5
Ilex verticillata	1479	42.216342	-87.858005	10
Prunus americana	1479	42.216342	-87.858005	12
Celtis occidentalis	1463	42.259594	-88.095252	3
Quercus alba	1463	42.259594	-88.095252	3
Quercus ellipsoidalis	1463	42.259594	-88.095252	1
Quercus macrocarpa	1463	42.259594	-88.095252	6
Quercus velutina	1463	42.259594	-88.095252	1
Prunus americana	1463	42.259594	-88.095252	6
Celtis occidentalis	1468	42.258913	-88.092584	1
Quercus alba	1468	42.258913	-88.092584	2
Quercus ellipsoidalis	1468	42.258913	-88.092584	1
Quercus macrocarpa	1468	42.258913	-88.092584	5
Quercus velutina	1468	42.258913	-88.092584	1
Prunus americana	1468	42.258913	-88.092584	3
Carya ovata	1461	42.261246	-88.097430	1
Quercus alba	1461	42.261246	-88.097430	8
Quercus macrocarpa	1461	42.261246	-88.097430	1
Quercus rubra	1461	42.261246	-88.097430	2
Quercus velutina	1461	42.261246	-88.097430	1

Carya ovata	200	42.260800	-88.093169	3
Quercus alba	200	42.260800	-88.093169	29
Quercus ellipsoidalis	200	42.260800	-88.093169	2
Quercus macrocarpa	200	42.260800	-88.093169	3
Quercus rubra	200	42.260800	-88.093169	12
Quercus velutina	200	42.260800	-88.093169	5
Carya ovata	1467	42.259438	-88.092562	1
Quercus alba	1467	42.259438	-88.092562	5
Quercus macrocarpa	1467	42.259438	-88.092562	1
Quercus rubra	1467	42.259438	-88.092562	2
Quercus velutina	1467	42.259438	-88.092562	1
Carya ovata	199	42.257103	-88.103476	2
Crataegus mollis	199	42.257103	-88.103476	5
Malus ioensis	199	42.257103	-88.103476	15
Prunus serotina	199	42.257103	-88.103476	2
Quercus alba	199	42.257103	-88.103476	71
Quercus ellipsoidalis	199	42.257103	-88.103476	9
Quercus macrocarpa	199	42.257103	-88.103476	20
Quercus velutina	199	42.257103	-88.103476	10
Prunus americana	199	42.257103	-88.103476	12
Rhus glabra	199	42.257103	-88.103476	9
Malus ioensis	1456	42.261481	-88.102379	3
Quercus alba	1456	42.261481	-88.102379	2
Quercus macrocarpa	1456	42.261481	-88.102379	1
Malus ioensis	1455	42.260389	-88.102755	6
Prunus serotina	1455	42.260389	-88.102755	1
Quercus alba	1455	42.260389	-88.102755	4
Quercus macrocarpa	1455	42.260389	-88.102755	2
Quercus velutina	1455	42.260389	-88.102755	2
Carya ovata	1452	42.259314	-88.103866	1
Crataegus mollis	1452	42.259314	-88.103866	3
Malus ioensis	1452	42.259314	-88.103866	5
Quercus alba	1452	42.259314	-88.103866	13
Quercus ellipsoidalis	1452	42.259314	-88.103866	7
Quercus macrocarpa	1452	42.259314	-88.103866	15
Quercus velutina	1452	42.259314	-88.103866	3
Prunus americana	1452	42.259314	-88.103866	3
Rhus glabra	1452	42.259314	-88.103866	2
Crataegus mollis	1453	42.260303	-88.101702	2
Malus ioensis	1453	42.260303	-88.101702	3
Quercus alba	1453	42.260303	-88.101702	8
Quercus ellipsoidalis	1453	42.260303	-88.101702	2
Quercus macrocarpa	1453	42.260303	-88.101702	4
Quercus velutina	1453	42.260303	-88.101702	1
Prunus americana	1453	42.260303	-88.101702	2
Crataegus mollis	1460	42.261100	-88.101379	2
Malus ioensis	1460	42.261100	-88.101379	3

Quercus alba	1460	42.261100	-88.101379	2
Quercus ellipsoidalis	1460	42.261100	-88.101379	1
Quercus macrocarpa	1460	42.261100	-88.101379	5
Quercus velutina	1460	42.261100	-88.101379	1
Prunus americana	1460	42.261100	-88.101379	2
Rhus glabra	1460	42.261100	-88.101379	2
Carya ovata	241	42.304574	-88.146749	3
Crataegus mollis	241	42.304574	-88.146749	8
Malus ioensis	241	42.304574	-88.146749	21
Quercus alba	241	42.304574	-88.146749	8
Quercus ellipsoidalis	241	42.304574	-88.146749	8
Quercus macrocarpa	241	42.304574	-88.146749	37
Quercus velutina	241	42.304574	-88.146749	4
Prunus americana	241	42.304574	-88.146749	18
Rhus glabra	241	42.304574	-88.146749	4
Crataegus mollis	1478	42.400496	-88.015113	5
Malus ioensis	1478	42.400496	-88.015113	12
Populus tremuloides	1478	42.400496	-88.015113	2
Prunus serotina	1478	42.400496	-88.015113	1
Quercus alba	1478	42.400496	-88.015113	4
Quercus macrocarpa	1478	42.400496	-88.015113	21
Quercus velutina	1478	42.400496	-88.015113	2
Quercus macrocarpa	1879	42.198575	-87.852763	40
Quercus alba	1879	42.198575	-87.852763	5
Quercus bicolor	1879	42.198575	-87.852763	5
Quercus macrocarpa	1881	42.272718	-87.933210	15
Quercus alba	1881	42.272718	-87.933210	70
Quercus macrocarpa	1884	42.268011	-87.924377	25
Quercus alba	1884	42.268011	-87.924377	25
Quercus macrocarpa	1880	42.340727	-87.862508	50
Quercus alba	1880	42.340727	-87.862508	69
Quercus macrocarpa	1882	42.215742	-87.934835	50
Quercus alba	1882	42.215742	-87.934835	50
Quercus macrocarpa	1883	42.171204	-88.102205	6
Quercus alba	1883	42.171204	-88.102205	6
Quercus macrocarpa	1886	42.439292	-88.080576	50
Quercus alba	1886	42.439292	-88.080576	50

ORIGINAL TOTAL	2960
TOTAL YELLOW	223
TOTAL ORANGE	616

PROPOSED UPDATED TOTAL	2121
------------------------	------

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Wright Woods	10/11/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Prairie Wolf	10/18/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021
Lakewood	9/27/2021

This polygon was shown in yellow on City Forest Credit's review, but should remain, i.e. DO NOT REMOVE

[illegible]

Lakewood	9/20/2021
Lakewood	9/20/2021
Lakewood	9/20/2021
Lakewood	9/20/2021
Lakewood	9/20/2021
Lakewood	9/20/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Singing Hills	9/13/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Fourth Lake	9/15/2021
Prairie Wolf	10/1/2020
Prairie Wolf	10/1/2020
Prairie Wolf	10/1/2020
Old School	10/1/2020
Old School	10/1/2020
Old School	10/1/2020
Old School	10/1/2020
Greenbelt	10/1/2020
Greenbelt	10/1/2020
Half Day	10/1/2020
Half Day	10/1/2020
Cuba Marsh	10/1/2020
Cuba Marsh	10/1/2020
Sun Lake	10/1/2020
Sun Lake	10/1/2020

(Recommended removals from CFC, due to tree canopy)

(Additional removals recommended by LCFPD, due to difficulty in aerial photo monitoring, i.e. can

opy, small planting material, etc.)

Species	Plant Quantities
Amelanchier interior	9
Carpinus caroliniana	38
Carya cordiformis	19
Carya ovata	47
Celtis occidentalis	29
Cornus alternifolia	5
Cornus obliqua	33
Crataegus mollis	138
Hamamelis virginiana	6
Ilex verticillata	24
Juglans nigra	3
Malus ioensis	155
Ostrya virginiana	33
Populus grandidentata	7
Prunus americana	239
Prunus serotina	10
Prunus virginiana	103
Quercus alba	426
Quercus bicolor	64
Quercus ellipsoidalis	79
Quercus macrocarpa	372
Quercus rubra	65
Quercus velutina	75
Rhus glabra	142
YEAR 4 TOTAL	2121

Species	GIS Polygon ID #	Latitude	Longitude	Plant Quantities
Crataegus mollis	474	42.277941	-87.893397	5
Malus ioensis	474	42.277941	-87.893397	10
Prunus americana	474	42.277941	-87.893397	5
Prunus serotina	474	42.277941	-87.893397	1
Quercus alba	474	42.277941	-87.893397	2
Quercus macrocarpa	474	42.277941	-87.893397	2
Amelanchier laevis	590	42.493152	-87.929401	6
Crataegus mollis	590	42.493152	-87.929401	10
Malus ioensis	590	42.493152	-87.929401	15
Prunus americana	590	42.493152	-87.929401	9
Quercus alba	590	42.493152	-87.929401	12
Quercus macrocarpa	590	42.493152	-87.929401	12
Ilex verticillata	600	42.217968	-87.925096	3
Quercus bicolor	600	42.217968	-87.925096	1
Carpinus caroliniana	601	42.216993	-87.925668	3
Ilex verticillata	601	42.216993	-87.925668	3
Quercus bicolor	601	42.216993	-87.925668	3
Quercus macrocarpa	601	42.216993	-87.925668	2
Carpinus caroliniana	602	42.217111	-87.926968	2
Quercus macrocarpa	602	42.217111	-87.926968	1
Carpinus caroliniana	603	42.215164	-87.926467	3
Cornus alternifolia	603	42.215164	-87.926467	5
Ilex verticillata	603	42.215164	-87.926467	3
Quercus bicolor	603	42.215164	-87.926467	2
Quercus macrocarpa	603	42.215164	-87.926467	2
Crataegus mollis	613	42.241423	-87.881364	3
Malus ioensis	613	42.241423	-87.881364	2
Quercus macrocarpa	613	42.241423	-87.881364	3
Prunus americana	613	42.241423	-87.881364	3
Crataegus mollis	614	42.241423	-87.881364	3
Prunus americana	614	42.241423	-87.881364	6
Carpinus caroliniana	638	42.210321	-87.925677	3
Carya cordiformis	638	42.210321	-87.925677	1
Crataegus mollis	638	42.210321	-87.925677	1
Hamamelis virginiana	638	42.210321	-87.925677	3
Ostrya virginiana	638	42.210321	-87.925677	2
Prunus serotina	638	42.210321	-87.925677	1
Quercus alba	638	42.210321	-87.925677	2
Quercus velutina	638	42.210321	-87.925677	1
Crataegus mollis	639	42.209890	-87.926263	1
Quercus bicolor	639	42.209890	-87.926263	3
Quercus macrocarpa	639	42.209890	-87.926263	2
Salix nigra	639	42.209890	-87.926263	2
Cornus obliqua	639	42.209890	-87.926263	2
Quercus bicolor	644	42.209438	-87.924830	3

Quercus macrocarpa	644	42.209438	-87.924830	1
Ilex verticillata	644	42.209438	-87.924830	2
Carpinus caroliniana	637	-87.928247	42.219629	2
Crataegus mollis	637	-87.928247	42.219629	2
Malus ioensis	637	-87.928247	42.219629	3
Ostrya virginiana	637	-87.928247	42.219629	1
Quercus alba	637	-87.928247	42.219629	1
Quercus macrocarpa	637	-87.928247	42.219629	3
Quercus rubra	637	-87.928247	42.219629	1
Quercus velutina	637	-87.928247	42.219629	1
Prunus americana	637	-87.928247	42.219629	3
Carpinus caroliniana	640	42.220670	-87.926052	1
Quercus bicolor	640	42.220670	-87.926052	1
Quercus bicolor	640	42.220670	-87.926052	2
Quercus macrocarpa	640	42.220670	-87.926052	1
Carya cordiformis	641	42.220791	-87.926007	1
Malus ioensis	641	42.220791	-87.926007	2
Ostrya virginiana	641	42.220791	-87.926007	1
Quercus alba	641	42.220791	-87.926007	1
Quercus macrocarpa	641	42.220791	-87.926007	1
Malus ioensis	1455	42.260389	-88.102755	6
Prunus serotina	1455	42.260389	-88.102755	1
Quercus alba	1455	42.260389	-88.102755	4
Quercus macrocarpa	1455	42.260389	-88.102755	2
Quercus velutina	1455	42.260389	-88.102755	2
Malus ioensis	1456	42.261481	-88.102379	3
Quercus alba	1456	42.261481	-88.102379	2
Quercus macrocarpa	1456	42.261481	-88.102379	1
Crataegus mollis	1478	42.400496	-88.015113	5
Malus ioensis	1478	42.400496	-88.015113	12
Populus tremuloides	1478	42.400496	-88.015113	2
Prunus serotina	1478	42.400496	-88.015113	1
Quercus alba	1478	42.400496	-88.015113	4
Quercus macrocarpa	1478	42.400496	-88.015113	21
Quercus velutina	1478	42.400496	-88.015113	2
Amelanchier laevis	1479	42.216342	-87.858005	5
Carpinus caroliniana	1479	42.216342	-87.858005	6
Cornus obliqua	1479	42.216342	-87.858005	5
Crataegus mollis	1479	42.216342	-87.858005	5
Ilex verticillata	1479	42.216342	-87.858005	10
Malus ioensis	1479	42.216342	-87.858005	8
Ostrya virginiana	1479	42.216342	-87.858005	4
Prunus americana	1479	42.216342	-87.858005	12
Quercus macrocarpa	1879	42.198575	-87.852763	40
Quercus alba	1879	42.198575	-87.852763	5
Quercus bicolor	1879	42.198575	-87.852763	5
Quercus macrocarpa	1880	42.340727	-87.862508	50

Quercus alba	1880	42.340727	-87.862508	69
Quercus macrocarpa	1881	42.272718	-87.933210	15
Quercus alba	1881	42.272718	-87.933210	70
Quercus macrocarpa	1882	42.215742	-87.934835	50
Quercus alba	1882	42.215742	-87.934835	50
Quercus macrocarpa	1883	42.171204	-88.102205	6
Quercus alba	1883	42.171204	-88.102205	6
Quercus alba	1884	42.268011	-87.924377	25
Quercus macrocarpa	1884	42.268011	-87.924377	25
Quercus macrocarpa	1886	42.439292	-88.080576	50
Quercus alba	1886	42.439292	-88.080576	50

Preserve	Installation Date	
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDL
Middlefork Savanna	9/15/2020	BDL
Middlefork Savanna	9/15/2020	BDL
Van Patten	10/1/2020	BDS
Van Patten	10/1/2020	BDS
Van Patten	10/1/2020	BDS
Van Patten	10/1/2020	BDS
Van Patten	10/1/2020	BDL
Van Patten	10/1/2020	BDL
Wright Woods	10/11/2021	BES
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BES
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BES
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDL
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDS
Middlefork Savanna	9/15/2020	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDM
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL

Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BES
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDM
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDS
Wright Woods	10/11/2021	BDM
Wright Woods	10/11/2021	BDL
Wright Woods	10/11/2021	BDL
Lakewood	9/20/2021	BDS
Lakewood	9/20/2021	BDL
Lakewood	9/20/2021	BDL
Lakewood	9/20/2021	BDL
Lakewood	9/20/2021	BDL
Lakewood	9/20/2021	BDS
Lakewood	9/20/2021	BDL
Lakewood	9/20/2021	BDL
Fourth Lake	9/15/2021	BDS
Fourth Lake	9/15/2021	BDS
Fourth Lake	9/15/2021	BDL
Fourth Lake	9/15/2021	BDL
Fourth Lake	9/15/2021	BDL
Fourth Lake	9/15/2021	BDL
Fourth Lake	9/15/2021	BDL
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/18/2021	BES
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/18/2021	BDM
Prairie Wolf	10/18/2021	BDS
Prairie Wolf	10/1/2020	BDL
Prairie Wolf	10/1/2020	BDL
Prairie Wolf	10/1/2020	BDL
Greenbelt	10/1/2020	BDL

Greenbelt	10/1/2020	BDL
Old School	10/1/2020	BDL
Old School	10/1/2020	BDL
Half Day	10/1/2020	BDL
Half Day	10/1/2020	BDL
Cuba Marsh	10/1/2020	BDL
Cuba Marsh	10/1/2020	BDL
Old School	10/1/2020	BDL
Old School	10/1/2020	BDL
Sun Lake	10/1/2020	BDL
Sun Lake	10/1/2020	BDL

TOTALS BY TYPE	
BDL	630
BDM	8
BDS	180
BES	21
	839

		Baseline - Year 4				
		Percentage			Area	
	Acres	Tree	Non-Tree	SE	Tree	Non-Tree
Year 0	62.11	5.91%	94.09%	1.01%	3.673789	58.43621
Year 4	62.11	29.02%	70.98%	1.95%	18.02453	44.08547

Cover Class Options: "Tree" OR "Non-Tree"

ID	Cover Class	Latitude	Longitude
1	Non-Tree	-87.93273	42.2735113
2	Non-Tree	-87.93329	42.2731774
3	Non-Tree	-87.9342	42.2733439
4	Non-Tree	-87.93393	42.2735013
5	Non-Tree	-87.93379	42.2730038
6	Non-Tree	-87.93278	42.273628
7	Non-Tree	-87.93381	42.2728947
8	Non-Tree	-87.9334	42.2732225
9	Non-Tree	-87.93302	42.2720088
10	Non-Tree	-87.93359	42.2726093
11	Non-Tree	-88.11796	42.3444675
12	Non-Tree	-88.11824	42.3446748
13	Non-Tree	-88.11827	42.3455692
14	Non-Tree	-88.11802	42.3451948
15	Non-Tree	-88.11915	42.3454771
16	Non-Tree	-88.11832	42.3451005
17	Non-Tree	-88.11848	42.3457016
18	Non-Tree	-88.11869	42.3440128
19	Non-Tree	-88.11837	42.3456583
20	Non-Tree	-88.1189	42.34495
21	Non-Tree	-88.1057	42.2568853
22	Non-Tree	-88.10305	42.255766
23	Non-Tree	-88.10286	42.2575461
24	Non-Tree	-88.10483	42.2574709
25	Non-Tree	-88.10331	42.2576926
26	Non-Tree	-88.10345	42.257203
27	Non-Tree	-88.10345	42.2570139
28	Non-Tree	-88.10268	42.2565539
29	Non-Tree	-88.1035	42.2579326
30	Non-Tree	-88.10211	42.257061
31	Non-Tree	-88.09325	42.261207
32	Non-Tree	-88.09317	42.2615067
33	Tree	-88.09349	42.2613904
34	Tree	-88.09371	42.261211
35	Non-Tree	-88.09298	42.2614386
36	Tree	-88.09326	42.2609429
37	Non-Tree	-88.0925	42.2602698
38	Non-Tree	-88.0933	42.2602829
39	Non-Tree	-88.09351	42.2611903
40	Non-Tree	-88.0936	42.2610978

41 Tree	-87.94645	42.3258723
42 Tree	-87.94619	42.3269718
43 Non-Tree	-87.94693	42.3273583
44 Non-Tree	-87.94699	42.3271306
45 Non-Tree	-87.94646	42.3255255
46 Non-Tree	-87.94635	42.3258369
47 Non-Tree	-87.94708	42.3273488
48 Non-Tree	-87.947	42.3272854
49 Tree	-87.9462	42.3270868
50 Tree	-87.94671	42.3273583
51 Non-Tree	-88.14753	42.3045379
52 Non-Tree	-88.14911	42.3042778
53 Non-Tree	-88.14584	42.3050592
54 Non-Tree	-88.14631	42.305445
55 Non-Tree	-88.14585	42.3045302
56 Non-Tree	-88.14681	42.3054473
57 Non-Tree	-88.14865	42.3050362
58 Non-Tree	-88.1476	42.3051133
59 Non-Tree	-88.14894	42.304104
60 Non-Tree	-88.14742	42.3038593
61 Non-Tree	-87.94467	42.3267637
62 Non-Tree	-87.9444	42.3252354
63 Non-Tree	-87.94452	42.324701
64 Non-Tree	-87.94517	42.3256225
65 Non-Tree	-87.94486	42.3256314
66 Non-Tree	-87.94476	42.325194
67 Non-Tree	-87.94481	42.3259815
68 Non-Tree	-87.94498	42.3269095
69 Non-Tree	-87.94456	42.3260768
70 Non-Tree	-87.9453	42.3266898
71 Non-Tree	-87.93764	42.2748062
72 Non-Tree	-87.93772	42.2745866
73 Non-Tree	-87.93745	42.2747206
74 Non-Tree	-87.93731	42.2749056
75 Non-Tree	-87.93735	42.274556
76 Non-Tree	-87.93747	42.2749317
77 Non-Tree	-87.93752	42.2747891
78 Non-Tree	-87.93763	42.2747345
79 Non-Tree	-87.93747	42.2745156
80 Non-Tree	-87.93758	42.2745415
81 Non-Tree	-87.93204	42.2721847
82 Non-Tree	-87.93172	42.2734226
83 Non-Tree	-87.93321	42.2722418
84 Non-Tree	-87.93154	42.2718863

85 Non-Tree	-87.93215	42.2722495
86 Non-Tree	-87.93155	42.2722975
87 Non-Tree	-87.93226	42.2715736
88 Non-Tree	-87.93143	42.2720277
89 Non-Tree	-87.93311	42.2713828
90 Non-Tree	-87.93305	42.2723742
91 Non-Tree	-88.12478	42.3279552
92 Non-Tree	-88.12609	42.3270765
93 Non-Tree	-88.12444	42.3280787
94 Non-Tree	-88.12374	42.3282105
95 Non-Tree	-88.12389	42.3282426
96 Non-Tree	-88.12401	42.3281886
97 Non-Tree	-88.12452	42.3279783
98 Non-Tree	-88.12471	42.328005
99 Non-Tree	-88.12395	42.3283122
100 Non-Tree	-88.12676	42.3274023
101 Non-Tree	-88.12252	42.3268281
102 Non-Tree	-88.12158	42.3269152
103 Non-Tree	-88.12302	42.3270271
104 Non-Tree	-88.12178	42.326842
105 Non-Tree	-88.12267	42.3268373
106 Non-Tree	-88.12145	42.3269497
107 Non-Tree	-88.12221	42.326743
108 Non-Tree	-88.12188	42.3268283
109 Non-Tree	-88.12299	42.3268988
110 Non-Tree	-88.1229	42.3268065
111 Non-Tree	-88.12277	42.3261014
112 Non-Tree	-88.12268	42.3258117
113 Non-Tree	-88.12275	42.3258516
114 Non-Tree	-88.12284	42.3259256
115 Non-Tree	-88.12268	42.3261837
116 Non-Tree	-88.12265	42.3257413
117 Non-Tree	-88.12693	42.3264745
118 Non-Tree	-88.12594	42.3254672
119 Non-Tree	-88.12617	42.3253958
120 Non-Tree	-88.12679	42.3251223
121 Non-Tree	-88.12585	42.3254922
122 Non-Tree	-88.12655	42.3252172
123 Non-Tree	-88.12641	42.3252849
124 Non-Tree	-88.12607	42.3254238
125 Non-Tree	-88.12669	42.3251448
126 Non-Tree	-88.12359	42.3246514
127 Non-Tree	-88.12408	42.3247885
128 Non-Tree	-88.12391	42.3250861

129 Non-Tree	-88.1236	42.3239004
130 Non-Tree	-88.12329	42.3238778
131 Non-Tree	-88.12348	42.3243782
132 Non-Tree	-88.12341	42.3244819
133 Non-Tree	-88.12324	42.3233939
134 Non-Tree	-88.12334	42.3237477
135 Non-Tree	-88.12331	42.3233175
136 Non-Tree	-88.12187	42.3234817
137 Non-Tree	-88.12186	42.3233589
138 Non-Tree	-88.12221	42.3236527
139 Non-Tree	-88.12204	42.3236238
140 Non-Tree	-88.12212	42.323536
141 Non-Tree	-88.12263	42.3230932
142 Non-Tree	-88.12194	42.3231264
143 Non-Tree	-88.12199	42.3235241
144 Non-Tree	-88.1222	42.3237334
145 Non-Tree	-88.12181	42.3231968
146 Non-Tree	-88.12123	42.3218402
147 Non-Tree	-88.12114	42.3215181
148 Non-Tree	-88.12132	42.3216224
149 Non-Tree	-88.1212	42.3217587
150 Non-Tree	-88.12136	42.3218475
151 Non-Tree	-88.12122	42.3215452
152 Non-Tree	-88.12113	42.3216166
153 Non-Tree	-88.12695	42.3239957
154 Non-Tree	-88.12651	42.3240752
155 Non-Tree	-88.1272	42.3240689
156 Non-Tree	-88.12677	42.3240196
157 Non-Tree	-88.12709	42.3240419
158 Non-Tree	-88.12686	42.323967
159 Non-Tree	-88.12669	42.3240422
160 Non-Tree	-88.12659	42.3240079
161 Non-Tree	-88.12664	42.3222169
162 Non-Tree	-88.12655	42.3220127
163 Non-Tree	-88.12651	42.3218693
164 Non-Tree	-88.12608	42.322372
165 Non-Tree	-88.12621	42.3224443
166 Non-Tree	-88.12672	42.3226288
167 Non-Tree	-88.12563	42.3224031
168 Non-Tree	-88.1259	42.3222422
169 Non-Tree	-88.12669	42.3223791
170 Non-Tree	-88.1264	42.3225286
171 Non-Tree	-88.12773	42.3220797
172 Non-Tree	-88.12763	42.3220327

173 Non-Tree	-88.12764	42.3218748
174 Non-Tree	-88.12843	42.3214126
175 Non-Tree	-88.12766	42.3217749
176 Non-Tree	-88.12772	42.3228679
177 Non-Tree	-88.12805	42.321593
178 Non-Tree	-88.12775	42.3226765
179 Non-Tree	-88.1278	42.3224752
180 Non-Tree	-88.12775	42.3221467
181 Non-Tree	-88.12737	42.3231832
182 Non-Tree	-88.12738	42.323102
183 Non-Tree	-88.12739	42.3233459
184 Non-Tree	-88.12742	42.3235238
185 Non-Tree	-88.12744	42.3234061
186 Non-Tree	-88.12736	42.3232707
187 Non-Tree	-88.12731	42.3234533
188 Non-Tree	-88.12952	42.3239505
189 Non-Tree	-88.12993	42.3240709
190 Non-Tree	-88.12933	42.3239235
191 Non-Tree	-88.1298	42.3240069
192 Non-Tree	-88.1286	42.3237966
193 Non-Tree	-88.12864	42.3235278
194 Non-Tree	-88.12846	42.3237356
195 Non-Tree	-88.12963	42.3240211
196 Non-Tree	-88.12876	42.3235709
197 Non-Tree	-88.12852	42.3234852
198 Non-Tree	-88.1306	42.323407
199 Non-Tree	-88.13125	42.3231616
200 Non-Tree	-88.13095	42.3231576
201 Non-Tree	-88.13072	42.3233169
202 Non-Tree	-88.13104	42.3231476
203 Non-Tree	-88.13051	42.3233664
204 Non-Tree	-88.13085	42.3232379
205 Non-Tree	-88.13122	42.323239
206 Non-Tree	-88.13129	42.3225557
207 Non-Tree	-88.13314	42.3233219
208 Non-Tree	-88.1336	42.3233345
209 Non-Tree	-88.1335	42.3232798
210 Non-Tree	-88.13157	42.3226317
211 Non-Tree	-88.13337	42.3232713
212 Non-Tree	-88.13283	42.3229779
213 Non-Tree	-88.13194	42.3227479
214 Non-Tree	-88.13145	42.3225845
215 Non-Tree	-88.13209	42.3229819
216 Non-Tree	-88.13007	42.3220602

217 Non-Tree	-88.13008	42.3222881
218 Non-Tree	-88.12769	42.3278577
219 Non-Tree	-88.12687	42.3277272
220 Non-Tree	-88.12799	42.3277477
221 Non-Tree	-88.12486	42.3281373
222 Non-Tree	-88.12508	42.3279848
223 Non-Tree	-88.12642	42.3278845
224 Non-Tree	-88.12537	42.3280135
225 Non-Tree	-88.1248	42.3282383
226 Non-Tree	-88.1277	42.3277198
227 Non-Tree	-88.1274	42.3276758
228 Non-Tree	-88.12721	42.3254886
229 Non-Tree	-88.12724	42.3249036
230 Non-Tree	-88.12652	42.3258834
231 Non-Tree	-88.12631	42.3256438
232 Non-Tree	-88.1267	42.3258177
233 Non-Tree	-88.12692	42.325508
234 Non-Tree	-88.12682	42.3255364
235 Non-Tree	-88.12707	42.3255063
236 Non-Tree	-88.12701	42.3253527
237 Non-Tree	-88.12619	42.3258453
238 Non-Tree	-88.12882	42.3265626
239 Non-Tree	-88.12849	42.3240302
240 Non-Tree	-88.12942	42.3241031
241 Non-Tree	-88.12896	42.3267826
242 Non-Tree	-88.1296	42.3242552
243 Non-Tree	-88.12956	42.325712
244 Non-Tree	-88.1294	42.3263728
245 Non-Tree	-88.12917	42.3240292
246 Non-Tree	-88.12994	42.3256774
247 Non-Tree	-88.12962	42.3241808
248 Non-Tree	-88.1332	42.3234372
249 Non-Tree	-88.13221	42.3234741
250 Non-Tree	-88.13346	42.323537
251 Non-Tree	-88.13099	42.3227915
252 Non-Tree	-88.13082	42.3236178
253 Non-Tree	-88.13104	42.3234251
254 Non-Tree	-88.13278	42.3234008
255 Non-Tree	-88.13116	42.3228825
256 Non-Tree	-88.13211	42.3231834
257 Non-Tree	-88.13118	42.3226585
258 Non-Tree	-88.12806	42.3230812
259 Non-Tree	-88.12858	42.3228044
260 Non-Tree	-88.12944	42.3227127

261 Non-Tree	-88.12812	42.32278
262 Non-Tree	-88.12794	42.3231922
263 Non-Tree	-88.12821	42.3230256
264 Non-Tree	-88.12909	42.3229621
265 Non-Tree	-88.13004	42.3227559
266 Non-Tree	-88.12849	42.3226648
267 Non-Tree	-88.13016	42.3225942
268 Non-Tree	-88.10374	42.1674549
269 Non-Tree	-88.10458	42.1671619
270 Non-Tree	-88.10399	42.1671255
271 Non-Tree	-88.10018	42.1705151
272 Non-Tree	-88.09899	42.1706459
273 Non-Tree	-88.09583	42.1715173
274 Non-Tree	-88.09679	42.1708462
275 Non-Tree	-88.103	42.1670459
276 Non-Tree	-88.10242	42.1670657
277 Non-Tree	-88.0988	42.1711194
278 Non-Tree	-87.86398	42.3404986
279 Non-Tree	-87.86169	42.3410687
280 Non-Tree	-87.86196	42.3411107
281 Non-Tree	-87.86414	42.3407617
282 Non-Tree	-87.86388	42.3401954
283 Non-Tree	-87.86207	42.3410233
284 Tree	-87.86633	42.3404355
285 Non-Tree	-87.86037	42.3409658
286 Non-Tree	-87.86287	42.3409745
287 Tree	-87.8614	42.3408713
288 Non-Tree	-87.92933	42.4882464
289 Non-Tree	-87.9274	42.4895209
290 Non-Tree	-87.93035	42.4888003
291 Non-Tree	-87.93051	42.4888814
292 Non-Tree	-87.92812	42.4886423
293 Non-Tree	-87.92851	42.491887
294 Non-Tree	-87.92987	42.4894117
295 Non-Tree	-87.9284	42.4904033
296 Non-Tree	-87.92864	42.4899379
297 Non-Tree	-87.92932	42.4899773
298 Non-Tree	-87.93044	42.4913405
299 Non-Tree	-87.93033	42.4915889
300 Non-Tree	-87.9304	42.4914305
301 Non-Tree	-87.9302	42.4915723
302 Non-Tree	-87.93206	42.4895233
303 Non-Tree	-87.93194	42.4896713
304 Non-Tree	-87.93187	42.4885067

305 Non-Tree	-87.93195	42.4874579
306 Non-Tree	-87.93108	42.4901348
307 Non-Tree	-87.93169	42.4886014
308 Non-Tree	-87.93183	42.4902777
309 Non-Tree	-87.93155	42.4886423
310 Non-Tree	-87.93198	42.4886825
311 Non-Tree	-87.93164	42.4890579
312 Tree	-87.9324	42.4865759
313 Non-Tree	-87.93224	42.4866788
314 Non-Tree	-87.9325	42.486533
315 Non-Tree	-87.93236	42.4866757
316 Non-Tree	-87.93218	42.4867401
317 Non-Tree	-87.93235	42.4868157
318 Non-Tree	-87.93269	42.4866126
319 Non-Tree	-87.9325	42.4868385
320 Non-Tree	-87.93242	42.4867682
321 Non-Tree	-87.93254	42.4867088
322 Non-Tree	-87.93727	42.4846994
323 Non-Tree	-87.93746	42.483911
324 Non-Tree	-87.93733	42.4848879
325 Non-Tree	-87.93695	42.4852605
326 Non-Tree	-87.93734	42.4842589
327 Non-Tree	-87.93707	42.4853328
328 Non-Tree	-87.93733	42.4844966
329 Non-Tree	-87.93729	42.4843907
330 Non-Tree	-87.93683	42.4853676
331 Non-Tree	-87.93646	42.4854668
332 Non-Tree	-87.88741	42.2547619
333 Non-Tree	-87.88713	42.2547717
334 Non-Tree	-87.88728	42.2548664
335 Non-Tree	-87.88734	42.2548144
336 Non-Tree	-87.88753	42.2546532
337 Tree	-87.8873	42.2546411
338 Non-Tree	-87.88722	42.2547949
339 Tree	-87.88743	42.2546365
340 Non-Tree	-87.88728	42.2547345
341 Tree	-87.88716	42.2546709
342 Non-Tree	-87.88715	42.2553032
343 Non-Tree	-87.8872	42.2551435
344 Non-Tree	-87.8873	42.2551713
345 Non-Tree	-87.88731	42.2552918
346 Non-Tree	-87.8873	42.2554185
347 Non-Tree	-87.8872	42.2554031
348 Non-Tree	-87.88721	42.255229

349 Non-Tree	-87.88735	42.2554804
350 Non-Tree	-87.88709	42.2550822
351 Non-Tree	-87.8872	42.2554928
352 Non-Tree	-87.89021	42.257149
353 Non-Tree	-87.89014	42.2570711
354 Non-Tree	-87.89001	42.2571099
355 Non-Tree	-87.89014	42.2572955
356 Non-Tree	-87.89035	42.2573975
357 Tree	-87.89014	42.2570035
358 Tree	-87.89024	42.2573816
359 Non-Tree	-87.88991	42.2571161
360 Non-Tree	-87.8902	42.2572331
361 Non-Tree	-87.89027	42.2573035
362 Non-Tree	-87.88746	42.2558513
363 Tree	-87.88806	42.2561079
364 Non-Tree	-87.8882	42.2560658
365 Tree	-87.88767	42.2558228
366 Non-Tree	-87.88733	42.2558539
367 Non-Tree	-87.88734	42.2559238
368 Tree	-87.88789	42.2558543
369 Non-Tree	-87.88756	42.2560374
370 Tree	-87.88808	42.2560322
371 Tree	-87.88744	42.256067
372 Non-Tree	-87.88309	42.2574781
373 Non-Tree	-87.88332	42.257734
374 Non-Tree	-87.8832	42.2575942
375 Non-Tree	-87.88905	42.2556414
376 Tree	-87.88912	42.2557273
377 Non-Tree	-87.88896	42.2558749
378 Non-Tree	-87.88896	42.2557167
379 Non-Tree	-87.88885	42.255823
380 Non-Tree	-87.88883	42.2559634
381 Non-Tree	-87.88908	42.2557881
382 Tree	-87.88897	42.2558029
383 Non-Tree	-87.88917	42.255803
384 Non-Tree	-87.88896	42.2559444
385 Non-Tree	-87.88208	42.2491358
386 Non-Tree	-87.88212	42.2484125
387 Non-Tree	-87.88202	42.2492503
388 Non-Tree	-87.88191	42.2492951
389 Non-Tree	-87.88137	42.2414966
390 Tree	-87.88139	42.2414094
391 Non-Tree	-87.88136	42.2416288
392 Non-Tree	-87.88131	42.2415553

393 Non-Tree	-87.88663	42.2554911
394 Non-Tree	-87.88676	42.2552525
395 Non-Tree	-87.88691	42.2557146
396 Non-Tree	-87.88671	42.2554217
397 Non-Tree	-87.88687	42.2555096
398 Non-Tree	-87.88663	42.2553284
399 Non-Tree	-87.88685	42.255645
400 Non-Tree	-87.88666	42.2551278
401 Non-Tree	-87.88702	42.2556185
402 Non-Tree	-87.88665	42.2552293
403 Tree	-87.88187	42.2494389
404 Non-Tree	-87.88189	42.2496722
405 Non-Tree	-87.88174	42.250194
406 Non-Tree	-87.88178	42.2505251
407 Tree	-87.8817	42.250452
408 Non-Tree	-87.88185	42.2497659
409 Non-Tree	-87.88191	42.2495062
410 Non-Tree	-87.88181	42.2499065
411 Non-Tree	-87.88188	42.2495708
412 Non-Tree	-87.88159	42.2513635
413 Non-Tree	-87.88157	42.2512227
414 Non-Tree	-87.88322	42.2422159
415 Non-Tree	-87.88319	42.2423054
416 Non-Tree	-87.8832	42.2421473
417 Non-Tree	-87.88208	42.247608
418 Non-Tree	-87.8821	42.2471969
419 Non-Tree	-87.88202	42.2468628
420 Non-Tree	-87.88202	42.2475194
421 Non-Tree	-87.88199	42.2467853
422 Non-Tree	-87.88197	42.2470265
423 Non-Tree	-87.88197	42.2469205
424 Non-Tree	-87.94572	42.3238884
425 Non-Tree	-87.94647	42.3236038
426 Non-Tree	-87.94582	42.3238504
427 Non-Tree	-87.94616	42.3237403
428 Non-Tree	-87.9455	42.3238787
429 Non-Tree	-87.94638	42.3236943
430 Non-Tree	-87.94597	42.3238403
431 Non-Tree	-87.9456	42.3238953
432 Non-Tree	-87.9286	42.2159987
433 Tree	-87.92876	42.2162845
434 Non-Tree	-87.92819	42.2165225
435 Non-Tree	-87.92783	42.2173639
436 Non-Tree	-87.92781	42.2171163

437 Non-Tree	-87.92805	42.2166103
438 Non-Tree	-87.92802	42.2167419
439 Non-Tree	-87.92784	42.2176201
440 Non-Tree	-87.92796	42.2177391
441 Non-Tree	-87.92796	42.2168683
442 Non-Tree	-87.92764	42.2168641
443 Non-Tree	-87.92796	42.2161288
444 Non-Tree	-87.92758	42.2167957
445 Non-Tree	-87.92763	42.2172768
446 Non-Tree	-87.92776	42.2161944
447 Non-Tree	-87.92765	42.2170449
448 Non-Tree	-87.92779	42.2163368
449 Non-Tree	-87.92798	42.2159874
450 Non-Tree	-87.92774	42.2166901
451 Non-Tree	-87.92762	42.2162812
452 Non-Tree	-87.92016	42.2091183
453 Non-Tree	-87.91982	42.2093223
454 Non-Tree	-87.91994	42.2091674
455 Non-Tree	-87.91964	42.208962
456 Non-Tree	-87.91936	42.209181
457 Non-Tree	-87.9193	42.2090893
458 Non-Tree	-87.92018	42.209043
459 Non-Tree	-87.91966	42.2093313
460 Non-Tree	-87.91988	42.2090248
461 Non-Tree	-87.91956	42.2091055
462 Tree	-88.10122	42.2604848
463 Non-Tree	-88.10101	42.2601285
464 Non-Tree	-88.10149	42.2607426
465 Non-Tree	-88.10109	42.2600352
466 Non-Tree	-88.10139	42.2606182
467 Non-Tree	-88.10165	42.2602246
468 Non-Tree	-88.10136	42.2604408
469 Non-Tree	-88.10104	42.2602192
470 Non-Tree	-88.1016	42.2607585
471 Non-Tree	-88.10168	42.2606365
472 Non-Tree	-88.10145	42.2610964
473 Non-Tree	-88.10104	42.2609079
474 Non-Tree	-88.10156	42.2611905
475 Non-Tree	-88.10169	42.2611427
476 Non-Tree	-88.10101	42.2608353
477 Non-Tree	-88.10134	42.2610213
478 Non-Tree	-88.10158	42.2612651
479 Non-Tree	-88.10139	42.2612319
480 Non-Tree	-88.10157	42.2613616

481 Non-Tree	-88.10143	42.2611628
482 Non-Tree	-88.09729	42.261176
483 Non-Tree	-88.09757	42.2612919
484 Non-Tree	-88.09715	42.2613147
485 Non-Tree	-88.09725	42.2613086
486 Non-Tree	-88.09736	42.2613367
487 Non-Tree	-88.09751	42.2609358
488 Non-Tree	-88.09763	42.2613449
489 Non-Tree	-88.09744	42.2611291
490 Non-Tree	-88.09718	42.2610794
491 Non-Tree	-88.09739	42.2611941
492 Tree	-88.09542	42.2599047
493 Non-Tree	-88.09542	42.2601734
494 Non-Tree	-88.09544	42.2600334
495 Non-Tree	-88.09543	42.2595417
496 Non-Tree	-88.09491	42.2591342
497 Non-Tree	-88.09536	42.2592793
498 Non-Tree	-88.09517	42.259359
499 Non-Tree	-88.09526	42.2596448
500 Non-Tree	-88.09493	42.2590395
501 Non-Tree	-88.09539	42.2598324
502 Non-Tree	-88.09269	42.2597368
503 Non-Tree	-88.09231	42.2592428
504 Non-Tree	-88.09228	42.2593334
505 Non-Tree	-88.09289	42.2592941
506 Non-Tree	-88.09282	42.2593636
507 Non-Tree	-88.09258	42.2592991
508 Non-Tree	-88.09272	42.2593557
509 Tree	-88.09274	42.2596612
510 Non-Tree	-88.09276	42.2592298
511 Non-Tree	-88.09241	42.2592534
512 Non-Tree	-88.09258	42.2590872
513 Non-Tree	-88.09238	42.2589096
514 Non-Tree	-88.09238	42.258761
515 Non-Tree	-88.09291	42.2587625
516 Tree	-88.09306	42.2590923
517 Non-Tree	-88.09289	42.2590512
518 Non-Tree	-88.09225	42.2588299
519 Non-Tree	-88.09238	42.259135
520 Non-Tree	-88.09273	42.259184
521 Non-Tree	-88.09275	42.2589093
522 Non-Tree	-87.93528	42.2728742
523 Non-Tree	-87.93529	42.2726836
524 Non-Tree	-87.93465	42.272953

525 Non-Tree	-87.93536	42.2727717
526 Non-Tree	-87.9362	42.2733904
527 Non-Tree	-87.93595	42.272812
528 Non-Tree	-87.93528	42.2732611
529 Non-Tree	-87.93505	42.2730847
530 Non-Tree	-87.93475	42.2729501
531 Non-Tree	-87.93503	42.2727171
532 Non-Tree	-88.10332	42.2593875
533 Non-Tree	-88.10327	42.2592984
534 Non-Tree	-88.10355	42.2593878
535 Tree	-88.10318	42.2596304
536 Tree	-88.10441	42.2592352
537 Non-Tree	-88.10464	42.2585181
538 Non-Tree	-88.10414	42.2596791
539 Non-Tree	-88.10426	42.2591417
540 Non-Tree	-88.10275	42.2597028
541 Non-Tree	-88.10339	42.2592382

Cover Class Options: "Tree" OR "Non-Tree"

ID	Cover Class	Latitude	Longitude
1	Non-Tree	-87.9328	42.2733405
2	Tree	-87.93413	42.2733521
3	Non-Tree	-87.93269	42.2735463
4	Non-Tree	-87.93352	42.2724742
5	Non-Tree	-87.93349	42.2721036
6	Non-Tree	-87.9332	42.2731844
7	Non-Tree	-87.93336	42.2733603
8	Non-Tree	-87.93329	42.2722096
9	Non-Tree	-87.93266	42.2732842
10	Non-Tree	-87.93357	42.2719231
11	Non-Tree	-88.11937	42.3440895
12	Non-Tree	-88.11938	42.3449675
13	Non-Tree	-88.11876	42.3455008
14	Tree	-88.11914	42.344698
15	Tree	-88.11901	42.3454954
16	Non-Tree	-88.11822	42.3444088
17	Non-Tree	-88.11916	42.3456517
18	Tree	-88.11839	42.3457298
19	Non-Tree	-88.119	42.3453035
20	Non-Tree	-88.11902	42.3446154
21	Non-Tree	-88.10448	42.2572735
22	Non-Tree	-88.10221	42.2566914
23	Tree	-88.10216	42.2582151
24	Tree	-88.10363	42.257679
25	Tree	-88.105	42.2568749
26	Non-Tree	-88.10335	42.2574384
27	Non-Tree	-88.10279	42.2583513
28	Non-Tree	-88.10262	42.255861
29	Non-Tree	-88.10215	42.2575426
30	Non-Tree	-88.1028	42.2579966
31	Non-Tree	-88.09266	42.2607727
32	Non-Tree	-88.0927	42.2609488
33	Non-Tree	-88.09449	42.2611695
34	Tree	-88.09301	42.2607298
35	Tree	-88.09244	42.2604115
36	Tree	-88.0929	42.2613409
37	Tree	-88.09332	42.2607683
38	Non-Tree	-88.09287	42.260536
39	Non-Tree	-88.0932	42.2600592
40	Non-Tree	-88.09248	42.260296

41 Non-Tree	-87.94644	42.3255934
42 Tree	-87.94611	42.3252445
43 Non-Tree	-87.94623	42.3259659
44 Non-Tree	-87.94696	42.3271558
45 Tree	-87.94712	42.3270459
46 Non-Tree	-87.94616	42.3271999
47 Tree	-87.94676	42.327361
48 Tree	-87.94646	42.3254462
49 Tree	-87.94718	42.3272872
50 Non-Tree	-87.94621	42.3270343
51 Non-Tree	-88.1486	42.3046203
52 Non-Tree	-88.14546	42.3039403
53 Non-Tree	-88.14542	42.3042517
54 Non-Tree	-88.14911	42.3043734
55 Non-Tree	-88.14609	42.3044656
56 Non-Tree	-88.14544	42.3051469
57 Non-Tree	-88.14628	42.3054254
58 Tree	-88.14619	42.3053861
59 Non-Tree	-88.14868	42.3050895
60 Non-Tree	-88.14826	42.3050847
61 Non-Tree	-87.94447	42.3270454
62 Non-Tree	-87.94467	42.3244788
63 Non-Tree	-87.94451	42.3246296
64 Tree	-87.94498	42.3255429
65 Non-Tree	-87.94477	42.3244177
66 Tree	-87.94528	42.3251092
67 Non-Tree	-87.94475	42.3243233
68 Non-Tree	-87.94469	42.3257248
69 Tree	-87.94452	42.3255683
70 Tree	-87.94436	42.3257139
71 Non-Tree	-87.93713	42.2746995
72 Non-Tree	-87.93758	42.2747405
73 Non-Tree	-87.93727	42.2747436
74 Tree	-87.93714	42.2749189
75 Non-Tree	-87.93751	42.2745518
76 Non-Tree	-87.9374	42.2747479
77 Non-Tree	-87.9375	42.2747483
78 Non-Tree	-87.93765	42.2746319
79 Tree	-87.93748	42.2748928
80 Non-Tree	-87.93741	42.2745437
81 Non-Tree	-87.93311	42.2721826
82 Non-Tree	-87.93218	42.2721871
83 Tree	-87.93195	42.2729751
84 Non-Tree	-87.93193	42.272307

85 Tree	-87.93173	42.2713898
86 Non-Tree	-87.93208	42.2722952
87 Non-Tree	-87.93137	42.2721196
88 Non-Tree	-87.93144	42.2719647
89 Non-Tree	-87.93175	42.2726518
90 Tree	-87.93201	42.2712498
91 Non-Tree	-88.12681	42.3274274
92 Non-Tree	-88.12507	42.3276341
93 Non-Tree	-88.1239	42.3282576
94 Tree	-88.12695	42.327539
95 Tree	-88.1261	42.327052
96 Tree	-88.12382	42.3283946
97 Non-Tree	-88.12427	42.3281059
98 Non-Tree	-88.12393	42.3281875
99 Non-Tree	-88.12461	42.3280396
100 Non-Tree	-88.12474	42.3279934
101 Non-Tree	-88.12295	42.3268588
102 Non-Tree	-88.12268	42.326869
103 Tree	-88.12284	42.3268049
104 Tree	-88.12166	42.3268937
105 Non-Tree	-88.12255	42.3268133
106 Non-Tree	-88.12304	42.3270123
107 Non-Tree	-88.1215	42.326928
108 Non-Tree	-88.12213	42.3267647
109 Non-Tree	-88.12292	42.3271329
110 Tree	-88.12242	42.3268012
111 Non-Tree	-88.12278	42.3260481
112 Tree	-88.12267	42.3261833
113 Tree	-88.12284	42.3259019
114 Non-Tree	-88.12275	42.3258436
115 Non-Tree	-88.12284	42.326002
116 Non-Tree	-88.12275	42.3261371
117 Tree	-88.12695	42.3264537
118 Non-Tree	-88.12675	42.3251111
119 Non-Tree	-88.12604	42.3254221
120 Tree	-88.12615	42.3253886
121 Tree	-88.12688	42.3250395
122 Non-Tree	-88.12668	42.3251816
123 Non-Tree	-88.12656	42.3252109
124 Non-Tree	-88.12648	42.3252586
125 Non-Tree	-88.12634	42.3253189
126 Non-Tree	-88.12376	42.3245431
127 Tree	-88.12387	42.3259925
128 Tree	-88.12392	42.3257035

129 Non-Tree	-88.12351	42.3251685
130 Non-Tree	-88.12435	42.3247575
131 Non-Tree	-88.12443	42.3256358
132 Non-Tree	-88.12332	42.3233361
133 Tree	-88.12441	42.3254085
134 Non-Tree	-88.12451	42.3257668
135 Tree	-88.12358	42.3234023
136 Non-Tree	-88.12189	42.3232078
137 Non-Tree	-88.12209	42.3235609
138 Non-Tree	-88.12224	42.323077
139 Non-Tree	-88.12194	42.3230988
140 Tree	-88.12239	42.323373
141 Non-Tree	-88.1218	42.3233605
142 Tree	-88.12275	42.323087
143 Non-Tree	-88.12184	42.3233011
144 Non-Tree	-88.12206	42.3231792
145 Non-Tree	-88.12258	42.3230786
146 Non-Tree	-88.12114	42.3216266
147 Non-Tree	-88.1212	42.3217967
148 Non-Tree	-88.12123	42.3215575
149 Non-Tree	-88.12115	42.3216952
150 Non-Tree	-88.12128	42.3218674
151 Non-Tree	-88.12137	42.3218272
152 Tree	-88.12114	42.3215076
153 Non-Tree	-88.12702	42.3240087
154 Non-Tree	-88.12668	42.3240343
155 Non-Tree	-88.12689	42.3239761
156 Tree	-88.12719	42.3240686
157 Tree	-88.12652	42.3240724
158 Non-Tree	-88.12659	42.3240172
159 Non-Tree	-88.12676	42.3239834
160 Non-Tree	-88.12711	42.3240398
161 Non-Tree	-88.12658	42.3219231
162 Non-Tree	-88.12668	42.3224084
163 Non-Tree	-88.12574	42.3223946
164 Non-Tree	-88.1266	42.3220409
165 Non-Tree	-88.12661	42.3226155
166 Non-Tree	-88.12616	42.3224286
167 Non-Tree	-88.12638	42.32253
168 Non-Tree	-88.12588	42.3222273
169 Non-Tree	-88.12664	42.3222179
170 Non-Tree	-88.12625	42.3224653
171 Non-Tree	-88.12786	42.3216996
172 Non-Tree	-88.12781	42.3223764

173 Non-Tree	-88.12776	42.3221998
174 Tree	-88.12763	42.3219884
175 Non-Tree	-88.12779	42.3224654
176 Tree	-88.12844	42.3214337
177 Tree	-88.12774	42.3228942
178 Non-Tree	-88.12777	42.3225485
179 Tree	-88.12774	42.3221058
180 Non-Tree	-88.12817	42.3215367
181 Non-Tree	-88.1274	42.3235036
182 Non-Tree	-88.12737	42.3230702
183 Non-Tree	-88.12739	42.3232627
184 Tree	-88.12759	42.3235922
185 Non-Tree	-88.12742	42.3233451
186 Non-Tree	-88.12733	42.3232055
187 Tree	-88.12733	42.3234547
188 Non-Tree	-88.12942	42.3239566
189 Non-Tree	-88.12857	42.3235082
190 Non-Tree	-88.12953	42.3239323
191 Tree	-88.12926	42.3238821
192 Tree	-88.12883	42.3235644
193 Tree	-88.12895	42.3235524
194 Non-Tree	-88.12982	42.3240148
195 Non-Tree	-88.12859	42.3238274
196 Non-Tree	-88.12893	42.3238866
197 Non-Tree	-88.12974	42.3240463
198 Non-Tree	-88.13088	42.3232151
199 Non-Tree	-88.131	42.3231635
200 Non-Tree	-88.13124	42.3230825
201 Non-Tree	-88.13061	42.3234694
202 Non-Tree	-88.13077	42.3233097
203 Tree	-88.13061	42.3233813
204 Non-Tree	-88.13051	42.3233718
205 Non-Tree	-88.13125	42.3231773
206 Non-Tree	-88.13134	42.3220212
207 Non-Tree	-88.13348	42.323263
208 Non-Tree	-88.1316	42.3222654
209 Non-Tree	-88.13124	42.3225599
210 Non-Tree	-88.13273	42.3231577
211 Non-Tree	-88.13152	42.3221319
212 Non-Tree	-88.13216	42.3230741
213 Non-Tree	-88.13145	42.3225039
214 Tree	-88.1321	42.3230153
215 Non-Tree	-88.13238	42.3230739
216 Non-Tree	-88.13009	42.3221274

217 Non-Tree	-88.13009	42.3223197
218 Non-Tree	-88.12491	42.3281887
219 Non-Tree	-88.12765	42.3278507
220 Non-Tree	-88.12713	42.3279022
221 Non-Tree	-88.12638	42.3275993
222 Non-Tree	-88.12754	42.3276633
223 Non-Tree	-88.1269	42.3277539
224 Tree	-88.12668	42.3279101
225 Non-Tree	-88.12517	42.3280246
226 Tree	-88.12423	42.3283318
227 Non-Tree	-88.12735	42.3277171
228 Non-Tree	-88.12706	42.3252577
229 Non-Tree	-88.12606	42.3256849
230 Non-Tree	-88.12688	42.3253574
231 Non-Tree	-88.12653	42.3256574
232 Tree	-88.12586	42.3256025
233 Non-Tree	-88.12674	42.3255996
234 Non-Tree	-88.12545	42.3258554
235 Non-Tree	-88.12609	42.3255796
236 Non-Tree	-88.12649	42.3258636
237 Tree	-88.12685	42.3257596
238 Tree	-88.1293	42.3264571
239 Non-Tree	-88.12913	42.3240227
240 Non-Tree	-88.12885	42.3240632
241 Non-Tree	-88.12837	42.3239039
242 Tree	-88.12816	42.3238945
243 Tree	-88.12938	42.3242067
244 Non-Tree	-88.12973	42.3254482
245 Non-Tree	-88.12951	42.3257768
246 Tree	-88.12973	42.3242273
247 Tree	-88.12892	42.3262728
248 Tree	-88.13082	42.3227483
249 Tree	-88.13224	42.3234598
250 Tree	-88.1304	42.3235617
251 Tree	-88.1304	42.3231573
252 Non-Tree	-88.13174	42.3233859
253 Tree	-88.13236	42.3232878
254 Tree	-88.13275	42.3234258
255 Non-Tree	-88.13086	42.3236427
256 Tree	-88.13122	42.3226299
257 Non-Tree	-88.13349	42.3235302
258 Non-Tree	-88.12931	42.3225748
259 Tree	-88.12897	42.3226783
260 Non-Tree	-88.1299	42.3225595

261 Non-Tree	-88.12777	42.3233691
262 Non-Tree	-88.12966	42.3225108
263 Non-Tree	-88.1301	42.3225863
264 Non-Tree	-88.12836	42.3229025
265 Non-Tree	-88.12848	42.3226306
266 Non-Tree	-88.12909	42.3226111
267 Tree	-88.12875	42.3227127
268 Non-Tree	-88.10103	42.1710844
269 Non-Tree	-88.10471	42.1655281
270 Non-Tree	-88.10418	42.1673102
271 Non-Tree	-88.09621	42.1711757
272 Non-Tree	-88.10541	42.166001
273 Non-Tree	-88.09483	42.1733166
274 Non-Tree	-88.10519	42.1654554
275 Non-Tree	-88.09792	42.1706375
276 Non-Tree	-88.10478	42.1680859
277 Non-Tree	-88.10002	42.1750909
278 Non-Tree	-87.86022	42.3411827
279 Non-Tree	-87.8616	42.3408555
280 Non-Tree	-87.86133	42.3410299
281 Non-Tree	-87.86033	42.3409173
282 Non-Tree	-87.86355	42.3400155
283 Non-Tree	-87.86164	42.34117
284 Tree	-87.86404	42.3402886
285 Non-Tree	-87.8625	42.3410071
286 Non-Tree	-87.86219	42.3410812
287 Non-Tree	-87.86201	42.3411854
288 Tree	-87.92878	42.4908839
289 Non-Tree	-87.92797	42.4886618
290 Non-Tree	-87.92955	42.4882563
291 Non-Tree	-87.93086	42.4892577
292 Non-Tree	-87.92801	42.491032
293 Non-Tree	-87.9307	42.4890261
294 Non-Tree	-87.92942	42.4883051
295 Non-Tree	-87.93097	42.4892029
296 Tree	-87.93042	42.48942
297 Non-Tree	-87.92784	42.4910228
298 Non-Tree	-87.93032	42.4915909
299 Tree	-87.93045	42.4913579
300 Non-Tree	-87.93036	42.491463
301 Tree	-87.93015	42.4915661
302 Non-Tree	-87.93123	42.4899301
303 Non-Tree	-87.93168	42.4876383
304 Tree	-87.93188	42.4877775

305 Non-Tree	-87.93171	42.4890694
306 Non-Tree	-87.93118	42.490018
307 Tree	-87.93117	42.4886974
308 Non-Tree	-87.93157	42.490244
309 Non-Tree	-87.93155	42.4896938
310 Non-Tree	-87.93208	42.4886245
311 Tree	-87.93183	42.4898883
312 Non-Tree	-87.93249	42.4865439
313 Non-Tree	-87.93169	42.4867766
314 Non-Tree	-87.9316	42.4867788
315 Tree	-87.93211	42.4867064
316 Non-Tree	-87.93228	42.4867352
317 Tree	-87.93235	42.4868076
318 Tree	-87.93267	42.4866246
319 Non-Tree	-87.93252	42.4868229
320 Non-Tree	-87.93262	42.4867023
321 Tree	-87.93253	42.4867369
322 Tree	-87.93651	42.4853884
323 Non-Tree	-87.93739	42.4839349
324 Non-Tree	-87.93726	42.484793
325 Tree	-87.93736	42.4843316
326 Tree	-87.93734	42.4850951
327 Non-Tree	-87.93706	42.4852442
328 Non-Tree	-87.93729	42.4846377
329 Non-Tree	-87.93712	42.4853698
330 Tree	-87.93736	42.4838345
331 Tree	-87.93733	42.4852442
332 Non-Tree	-87.88732	42.2548348
333 Non-Tree	-87.8873	42.2547206
334 Tree	-87.88743	42.2546971
335 Non-Tree	-87.88723	42.2548066
336 Tree	-87.88723	42.2546506
337 Non-Tree	-87.88736	42.2546366
338 Non-Tree	-87.88715	42.2547232
339 Non-Tree	-87.88744	42.2547703
340 Non-Tree	-87.88752	42.254671
341 Non-Tree	-87.88714	42.2547964
342 Non-Tree	-87.88726	42.2552199
343 Non-Tree	-87.88722	42.2552931
344 Tree	-87.88735	42.2554904
345 Non-Tree	-87.8872	42.2553647
346 Tree	-87.88719	42.2550836
347 Non-Tree	-87.88727	42.2551451
348 Non-Tree	-87.88723	42.2555053

349 Non-Tree	-87.88736	42.2555589
350 Non-Tree	-87.88716	42.2551714
351 Non-Tree	-87.88732	42.2553585
352 Tree	-87.89013	42.2569544
353 Tree	-87.89024	42.2571686
354 Non-Tree	-87.88982	42.2571558
355 Non-Tree	-87.89025	42.2574284
356 Non-Tree	-87.8901	42.2570694
357 Tree	-87.89001	42.257158
358 Non-Tree	-87.89016	42.2572808
359 Non-Tree	-87.89018	42.2571037
360 Non-Tree	-87.88991	42.2571641
361 Non-Tree	-87.89025	42.2573082
362 Tree	-87.88746	42.2560382
363 Non-Tree	-87.88736	42.2558771
364 Tree	-87.88809	42.2560012
365 Non-Tree	-87.88758	42.2557453
366 Tree	-87.88809	42.2560691
367 Tree	-87.88831	42.2560945
368 Tree	-87.88763	42.2558066
369 Tree	-87.88767	42.2559311
370 Tree	-87.88788	42.255937
371 Non-Tree	-87.88783	42.2558255
372 Tree	-87.88326	42.2576669
373 Tree	-87.88338	42.257827
374 Tree	-87.88318	42.2575697
375 Tree	-87.88889	42.2559928
376 Non-Tree	-87.88912	42.2558114
377 Tree	-87.88896	42.2557466
378 Non-Tree	-87.88912	42.2557397
379 Tree	-87.8888	42.2560028
380 Non-Tree	-87.88884	42.255859
381 Non-Tree	-87.88902	42.2558447
382 Non-Tree	-87.88891	42.2559069
383 Non-Tree	-87.88888	42.2557965
384 Non-Tree	-87.88903	42.2556647
385 Tree	-87.8821	42.2491307
386 Non-Tree	-87.88206	42.2492126
387 Non-Tree	-87.88207	42.2485882
388 Non-Tree	-87.88207	42.2486639
389 Tree	-87.88136	42.2415657
390 Non-Tree	-87.88136	42.2416666
391 Non-Tree	-87.88135	42.2414719
392 Tree	-87.88137	42.2414004

393 Tree	-87.88665	42.2553853
394 Non-Tree	-87.887	42.2556446
395 Non-Tree	-87.88689	42.255646
396 Non-Tree	-87.8869	42.2555265
397 Non-Tree	-87.88662	42.2551292
398 Non-Tree	-87.88659	42.2552078
399 Non-Tree	-87.88665	42.2555231
400 Non-Tree	-87.88672	42.2551353
401 Tree	-87.8869	42.2557448
402 Non-Tree	-87.88675	42.2554311
403 Non-Tree	-87.8819	42.2495124
404 Non-Tree	-87.88173	42.2504671
405 Tree	-87.8819	42.249717
406 Tree	-87.88185	42.2498322
407 Non-Tree	-87.88178	42.2505702
408 Non-Tree	-87.88181	42.2499178
409 Non-Tree	-87.88184	42.2504607
410 Non-Tree	-87.88188	42.2495891
411 Non-Tree	-87.8818	42.250027
412 Non-Tree	-87.8816	42.2512827
413 Tree	-87.88155	42.2514418
414 Tree	-87.88319	42.2421951
415 Non-Tree	-87.88328	42.2422924
416 Non-Tree	-87.88319	42.2422781
417 Tree	-87.88206	42.2476546
418 Tree	-87.88206	42.2474885
419 Non-Tree	-87.88202	42.2471674
420 Tree	-87.88195	42.2469394
421 Non-Tree	-87.88203	42.2472851
422 Non-Tree	-87.88205	42.247578
423 Non-Tree	-87.88203	42.2473789
424 Tree	-87.94638	42.3237094
425 Non-Tree	-87.94617	42.3237589
426 Tree	-87.94536	42.3238469
427 Tree	-87.94653	42.3235889
428 Non-Tree	-87.94564	42.3238994
429 Non-Tree	-87.94578	42.3239019
430 Non-Tree	-87.94598	42.3238323
431 Non-Tree	-87.94643	42.3236093
432 Non-Tree	-87.92842	42.216256
433 Non-Tree	-87.92795	42.2165884
434 Non-Tree	-87.9279	42.2177125
435 Non-Tree	-87.92787	42.2172989
436 Tree	-87.92817	42.2164305

437 Non-Tree	-87.92805	42.2164903
438 Non-Tree	-87.92866	42.2160327
439 Non-Tree	-87.92846	42.2160288
440 Non-Tree	-87.92814	42.2166065
441 Non-Tree	-87.92836	42.2159839
442 Tree	-87.92765	42.2168965
443 Non-Tree	-87.92779	42.2165462
444 Non-Tree	-87.92765	42.2170791
445 Non-Tree	-87.92774	42.216096
446 Tree	-87.92754	42.2172678
447 Non-Tree	-87.92812	42.2160647
448 Non-Tree	-87.92795	42.2161629
449 Non-Tree	-87.9276	42.2174106
450 Non-Tree	-87.9277	42.2162433
451 Non-Tree	-87.92784	42.2164171
452 Non-Tree	-87.92004	42.2090097
453 Non-Tree	-87.92001	42.2091932
454 Non-Tree	-87.91929	42.2091055
455 Non-Tree	-87.92014	42.2091602
456 Non-Tree	-87.91953	42.2091718
457 Non-Tree	-87.91928	42.2089592
458 Tree	-87.92057	42.2091585
459 Non-Tree	-87.91957	42.208979
460 Tree	-87.92036	42.2091667
461 Non-Tree	-87.9196	42.209346
462 Non-Tree	-88.10174	42.2606499
463 Non-Tree	-88.10128	42.260182
464 Non-Tree	-88.10147	42.2608049
465 Non-Tree	-88.10135	42.2605235
466 Tree	-88.10116	42.2603214
467 Non-Tree	-88.1015	42.2607118
468 Non-Tree	-88.10163	42.2602264
469 Tree	-88.10103	42.2602037
470 Tree	-88.10139	42.2603203
471 Tree	-88.10167	42.2607443
472 Non-Tree	-88.10131	42.2611579
473 Non-Tree	-88.10119	42.260915
474 Non-Tree	-88.10099	42.2607732
475 Non-Tree	-88.10147	42.2611006
476 Non-Tree	-88.10139	42.2612794
477 Tree	-88.10101	42.2608466
478 Tree	-88.10171	42.2611738
479 Tree	-88.10162	42.2610753
480 Non-Tree	-88.10151	42.2613035

481 Tree	-88.10135	42.2610149
482 Non-Tree	-88.09768	42.26133
483 Non-Tree	-88.09751	42.2613534
484 Tree	-88.09724	42.2611375
485 Non-Tree	-88.09736	42.2613061
486 Non-Tree	-88.09771	42.2610246
487 Non-Tree	-88.09767	42.2610846
488 Non-Tree	-88.09718	42.2610849
489 Non-Tree	-88.09714	42.2612925
490 Non-Tree	-88.09724	42.2613108
491 Non-Tree	-88.09746	42.2611093
492 Non-Tree	-88.09522	42.2599869
493 Non-Tree	-88.09511	42.2590732
494 Tree	-88.09535	42.2591885
495 Non-Tree	-88.09519	42.2593583
496 Non-Tree	-88.09496	42.2591024
497 Non-Tree	-88.09535	42.2599047
498 Non-Tree	-88.09545	42.2601989
499 Non-Tree	-88.09543	42.2599659
500 Non-Tree	-88.09522	42.2596696
501 Non-Tree	-88.09518	42.2599134
502 Non-Tree	-88.09282	42.2592277
503 Non-Tree	-88.0923	42.259405
504 Non-Tree	-88.0927	42.259278
505 Non-Tree	-88.09263	42.2595184
506 Tree	-88.09279	42.2597288
507 Non-Tree	-88.09266	42.2597151
508 Tree	-88.09236	42.2594677
509 Non-Tree	-88.0928	42.2593562
510 Non-Tree	-88.0929	42.2593375
511 Tree	-88.09232	42.2592301
512 Non-Tree	-88.09254	42.2588853
513 Tree	-88.09223	42.2588338
514 Non-Tree	-88.09233	42.2589067
515 Tree	-88.09306	42.2591359
516 Tree	-88.09256	42.2590759
517 Non-Tree	-88.0925	42.2588072
518 Non-Tree	-88.09293	42.2587988
519 Tree	-88.09262	42.2590077
520 Tree	-88.09288	42.2590178
521 Tree	-88.0924	42.2587531
522 Non-Tree	-87.93505	42.272651
523 Tree	-87.93585	42.2728357
524 Tree	-87.93511	42.2732339

525 Non-Tree	-87.93558	42.2727126
526 Tree	-87.93585	42.2733296
527 Non-Tree	-87.93518	42.2726575
528 Non-Tree	-87.93524	42.2730264
529 Non-Tree	-87.93514	42.2728245
530 Non-Tree	-87.9355	42.2725865
531 Tree	-87.93584	42.2726851
532 Non-Tree	-88.10423	42.2587205
533 Non-Tree	-88.10418	42.2592348
534 Non-Tree	-88.10457	42.2588409
535 Tree	-88.10426	42.2593343
536 Tree	-88.10343	42.2594098
537 Non-Tree	-88.10445	42.2588429
538 Non-Tree	-88.10417	42.2596253
539 Non-Tree	-88.10414	42.2595307
540 Non-Tree	-88.10362	42.2594235
541 Non-Tree	-88.10321	42.259278



Lake County Forest Preserve District – Carbon Planting Project Attestation of Additionality

I am the Manager of Restoration Ecology of the Lake County Forest Preserve District and make this attestation regarding additionality from this tree planting project, Lake County Forest Preserve District – Carbon Planting Project.

- **Project Description**
 - The Project that is the subject of this attestation is described more fully in both our Application and our Project Design Document (PDD), both of which are incorporated into this attestation.
- **Legal Requirements Test (Protocol Section 1.8)**
 - Project trees are not required by law or ordinance to be planted (except for replacement trees planted in place of removed trees for specific reasons).
- The Project did not plant trees on sites that were converted out of a forest use or that were cleared of healthy, non-invasive trees and then planted with project trees (Protocol Section 1.9)
- **Project-Specific Baseline or Performance Standard Baseline**
 - Project trees are additional based on a project specific baseline. See PDD; or
 - Project trees are additional based on the Performance Standard baseline; see attached baseline to the PDD. Project Operator has provided local canopy change data to support the use of the Performance Standard Baseline.
- **Project Implementation Agreement for Project Duration**
 - Lake County Forest Preserve District has signed a Project Implementation Agreement with City Forest Credits for 26 years.
- The 26-year Project Duration commitment is additional to and longer than any commitment Lake County Forest Preserve District makes to non-carbon project tree plantings.
- **Financial Additionality**
 - A successful afforestation carbon project goes beyond tree planting to ensure survival of the trees to a healthy maturity at 26 years after the Project start date. These Project Trees are at risk during all stages of this project. The Project Operator has no guaranteed source of long-term maintenance funding outside of the carbon revenues. Existing funding sources for tree planting do not cover maintenance past the first or second years after planting. Operating budgets also vary from year to year, based on available funds and competing priorities across the entire agency.
 - The revenue from the sale of carbon credits will play a material role in the successful and durable storage of Project Trees' carbon stock by providing funding that will help ensure the establishment and long-term health of Project Trees. Funds will be used to pay to plant replacement trees (in needed) and/or to pay for other activities that will meaningfully improve or ensure planted trees' health and project success, e.g. invasive species control.

- Prior Consideration: The Lake County Forest Preserve District first became aware of carbon crediting as a potential source of revenue for projects in ~2020-2021 when it became aware of the work of City Forest Credits program opportunities. In March 2021, the Lake County Forest Preserve Board of Commissioners directed staff to investigate carbon and ecosystem service credits. The District began working with the Chicago Region Trees Initiative shortly thereafter and became aware of City Forest Credits.
- In addition, many of the activities undertaken as part of the carbon project are beyond the Project Operator's common practice, including:
 - Project design (species and planting selection) to maximize carbon storage
 - Care through establishment phase (up to/through Year 3)
 - Long-term maintenance
 - Long-term monitoring and growth assessment
 - Acceptance of reversal obligations
 - Long-term legal commitment to the project

Signed on July 25 in 2025, by Matthew Ueltzen, for Lake County Forest Preserve District.



Signature

Matthew Ueltzen

Printed Name

(o) 847-968-3290 (m) 847-276-6230

Phone

muelitzen@lcfpd.org

Email