Reservation Woods Acquisition Project
Project Design Document

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INSTRUCTIONS

Project Operators must complete and submit this Project Design Document (PDD) to request credits. City Forest Credits (CFC) then reviews this PDD as part of the validation process along with all other required project documents. An approved third-party verifier then conducts verification.

The Protocol Requirements below are a list of eligibility requirements for informational purposes which are also found in the CFC Tree Preservation Protocol Version 11.40, dated February 7, 2022.

Project Operators will enter data and supporting attachments starting on page 6 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).

PROTOCOL REQUIREMENTS

Project Operator (Section 1.1)
Identify a Project Operator for the project. This is the entity or governmental body who takes responsibility for the project for the 40-year duration.

Project Duration and Project Implementation Agreement (Section 1.2, 2.2)
Project Operator must commit to a 40-year duration and sign a Project Implementation Agreement. This is a 40-year agreement between the Project Operator and City Forest Credits (the "Registry") for an urban forest carbon project.

Location Eligibility (Section 1.3)
Projects must be located in or along the boundary of at least one of the following criteria:

A. "Urban Area" per Census Bureau maps; see https://www.census.gov/geographies/reference-maps/2010/geo/2010-census-urban-areas.html
B. The boundary of any incorporated city or town created under the law of its state;
C. The boundary of any unincorporated city, town, or unincorporated urban area created or designated under the law of its state;
D. The boundary of any regional metropolitan planning agency or council established by legislative action or public charter. Examples include the Metropolitan Area Planning Council in Boston, the Chicago Municipal Planning Agency, the Capital Area Council of Governments (CAPCOG) in the Austin area, and the Southeastern Michigan Council of Governments (SEMCOG)
E. The boundary of land owned, designated, and used by a municipal or quasi-municipal entity for source water or watershed protection. Examples include Seattle City Light South Fork Tolt River Municipal Watershed (8,399 acres owned and managed by the City and closed to public access);
F. A transportation, power transmission, or utility right of way, provided the right of way begins, ends, or passes through some portion of A through D.

Ownership or Right to Receive Credits Eligibility (Section 1.5)
Project Operator must demonstrate ownership of property and eligibility to receive potential credits by meeting one of the following:

A. Own the land and potential credits upon which the Project trees are located; or

B. Own an easement or equivalent property interest for a public right of way within which Project trees are located and accept ownership of those Project trees by assuming responsibility for maintenance and liability for them; or

C. Have a written and signed agreement from the landowner, granting ownership to the Project Operator of any credits for carbon storage, other greenhouse gas benefits, and other co-benefits delivered by Project trees on that landowner's land. If the Project Area is on private property, the agreements in this sub-section must be recorded in the public records in the county where the property is located. The recordation requirement can be satisfied if the agreements specified in this sub-section are contained in a recorded easement, covenant, or deed restriction on the property.

Demonstrate Tree Preservation (Section 4.1)
The Project Operator must show that the trees in the Project Area are preserved from removal by a recorded easement, covenant, or deed restriction (referred to hereafter as "Recorded Encumbrance") with a term of at least 40 years. This action is referred to as the "Preservation Commitment." This Recorded Encumbrance must be recorded not later than 12 months after Registry approval of the Project's Application.

Demonstrate Threat of Loss (Section 4.2, 4.3, and 4.4):
The Project Operator must show that prior to the Preservation Commitment:

- Project trees were not preserved from removal through a Recorded Encumbrance or other prohibitions on their removal,
- The Project Area was:
    - In a land use designation that allowed for at least one non-forest use. Non-forest uses include industrial, commercial, transportation, residential, agricultural, or resource other than forest, as well as non-forest park, recreation, or open space uses.
    - Is not in an overlay zone that prohibits all development. Examples include critical areas or wetland designations.
- The Project Area met one of the following conditions:
    - Surrounded on at least 30% of its perimeter by non-forest, developed or improved uses, or
    - Sold, conveyed, or had assessed value within three years of preservation for greater than $8,000 average price per acre for the bare land, or
    - Would have a fair market value after conversion to a non-forested "highest and best use" greater than the fair market value after preservation in subsection 4.1, as stated in a "highest and best use" study from a state certified general real estate appraiser in good standing

Additionality (Section 6)
Additionality is ensured through the following:

- Prior to the start of the project, the trees in the project area are not protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees.
- The zoning in the project area must currently allow for a non-forest use
- The trees in the project area face a threat or risk of removal or conversion out of forest

- The Project Operator records in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years or 100 years (40 or 100 years depending on the protocol version)

Quantification for Credits (Section 11)

The full Protocol describes the following steps for carbon stock and soil carbon quantification in detail:

1. Stored carbon stock present in Project Area (Section 11.1)
   Estimate the biomass stock present and adjust for uncertainty to calculate the "Accounting Stock". This can be done using the US Forest Service General Technical Report NE-343 tables, on-site inventory of some live trees with i-Tree methods and tools, or an on-site forest inventory

2. Areas expected to remain in trees after potential development (Section 11.2)
   Calculate the fraction of the Accounting Stock that likely would be emitted as a result of development, to calculate "Avoided Biomass Emissions"

3. Claiming additional credit for growth (Section 11.3)
   The Project Operator may elect to also account for ongoing growth of trees within the Project Area after Project Commencement

4. Quantification of soil carbon (Section 11.4)
   Calculate "Avoided Soil Carbon Emissions" caused by conversion of soils to impervious surfaces in the Project Area

5. Deduction for displaced development (Section 11.5)
   Apply the deductions in Section 10.5 and Appendix B to Biomass and Soil Carbon calculations to adjust for development and emissions that would be displaced by the preservation of the Project Area (leakage deductions). This will reduce the creditable tonnes of Avoided Biomass Emissions and Avoided Soil Carbon Emissions to adjust for displaced development

6. Quantify Co-Benefits (Section 11.6)
   The Project Operator will calculate co-benefits separately from CO_2(e). The Registry will supply a spreadsheet template based on their climate zone, and will provide values for rainfall interception, reductions of air compounds, and energy savings.

Social Impacts (Section 12)

The Project Operator will describe how the Project impacts contribute towards achievement of the global UN Sustainable Development Goals (SDGs). The Registry will supply a template to evaluate how the Project aligns with the SDGs.

Attestation of No Net Harm and No Double Counting (Section 5)

The Project Operator will sign an attestation that no project shall cause net harm and no project shall seek credits on trees, properties, or projects that have already received credits.

Validation and Verification by Third-Party Verifiers (Section 13 and 14)

Project compliance and quantification must be verified by a third-party Validation and Verification Body approved by the Registry.

Issuance of Credits to Project Operator (Section 7)
Ex-post credits are issued after the biomass is protected via a recorded encumbrance protecting the trees. Issuance is phased or staged over one and five years at the equivalent of 50 aces of crediting per year. This staged issuance reflects the likely staging of development over time if the project area were to have been developed.

After validation and verification, the Registry issues credits to the Project Operator based on the Project Area size:

- 50 acres or less: all credits are issued after validation and verification
- Greater than 50 but less than 200 acres: credits are issued in the equivalent of 50 acres per year
- Greater than 200 acres: credits are issued in equal amounts over five years

Credits for Reversal Pool Account (Section 7.3):
The Registry will issue 90% of Project credits earned and requested and will hold 10% in the Registry's Reversal Pool Account.

Understand Reversals (Section 9)
If the Project Area loses credited carbon stock, the Project Operator must return or compensate for those credits if the tree loss is due to intentional acts or gross negligence of Project Operator. If tree loss is due to fire, pests, or other acts of god (i.e., not due to the Project Operator's intentional acts or gross negligence), the Registry covers the reversed credits from its Reversal Pool Account of credits held back from all projects.

Monitoring and Reporting (Section 8)
The Project Operator must submit a report every three years for the project duration. The reports must be accompanied by some form of telemetry or imaging that captures tree canopy, such as Google Earth, aerial imagery, or LiDAR. The reports must estimate any loss of stored carbon stock or soil disturbance in the Project Area.

PROJECT OVERVIEW

Project Name: Reservation Woods Acquisition Project
Project Number: 034
Project Type: Preservation Project (under the Tree Preservation Protocol – version 11.40, dated February 7, 2022)
Project Start Date: July 19, 2022
Project Location: Kendall County, Unincorporated Kendall Township, Illinois
Project Operator Name: Kendall County Forest Preserve District
Project Operator Contact Information:
David Guritz, Executive Director
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Project Description:
The Reservation Woods Acquisition Project ("the Project") will preserve 10.1 acres of deciduous forest that was planned to be removed for a designed subdivision in Kendall Township, Illinois. The project area consists of remnant woodlands located between the historic "Big Slough" Morgan Creek drainage area and the Waish-Kee-Shaw Indian Reservation lands established under the 1830 Treaty of Prairie du Chien. Kendall County Forest Preserve District's goal is to maintain Reservation Woods in perpetuity as publicly protected open space under a prescriptive ecosystem management program.

The Reservation Woods forest stand has an estimated age of 75 years and is classified as an Oak-Hickory forest. The project area is entirely forested, currently in transition from oak-hickory dominated mesic to wet mesic forest to maple-linden dominated mesic to wet mesic woodlands. Floristic quality inventories were completed in 1991 and 2018 (Kobal).

This project will expand publicly held open space for conservation purposes. Reservation Woods includes some of the best remaining oak woodlands within Kendall County. Henneberry Woods Forest Preserve, an adjacent 250-acre forest preserve, is an important grassland bird breeding area. The acquisition and preservation of the two parcels included in this project will expand protection of vital habitat. Kendall County contains some of the best remaining intact high-quality oak ecosystem corridors within northeastern Illinois. This project will conserve the Morgan Creek headwaters area, which in turn supports flood control and watershed protection, and provides an important expansion of conservation lands for locally and increasingly rare bird and wildlife species.

LOCATION OF PROJECT AREA (Section 1.3 and 1.4)

Project Area Location

The Project is located within the planning boundary of the Chicago Metropolitan Agency for Planning and meets the following eligibility requirement:

D. The boundary of any regional metropolitan planning agency or council established by legislative action or public charter.

Project Area Parcels

Jurisdiction / Location	Parcel Number	Description / Notes
Kendall County, Kendall Township (Unincorporated), Illinois	PIN# 05-01-400-004	Entire parcel included in Project Area – 4.8 acres
Kendall County, Kendall Township (Unincorporated), Illinois	PIN# 05-01-400-005	Entire parcel included in Project Area – 5.3 acres
		Total 10.1 acres

Project Area Maps

Provide maps of the Project Area with geospatial location vector data in 1) pdf form and 2) any file type that can be imported and read by Google Earth Pro (example KML, KMZ, or Shapefile format). Maps should include relevant urban or town boundaries, legend, and defined Project Area.

Geospatial location (boundaries) of Project Area
Filename: 1 Reservation Woods Geospatial location of Project Area.kmz

Regional-scale map of Project Area
Filename: 2 Reservation Woods Regional Map

Detailed map of Project Area
Filename: 3 Reservation Woods Project Area Map

OWNERSHIP OR ELIGIBILITY TO RECEIVE POTENTIAL CREDITS (Section 1.5)

Name of landowner of Project Area and explanation:
Kendall County Forest Preserve District is the landowner for the Project Area. The property was acquired on January 26, 2022. Kendall County Forest Preserve District is a land conservation agency established under the provisions of the Downstate Forest Preserve District Act.

Filename: 4 Reservation Woods Warranty Deed

PRESERVATION COMMITMENT (Section 4.1)

Describe the Preservation Commitment terms and provide a complete copy of the recorded document. If Project Area does not have the same boundaries as Preservation Commitment, please state the reasons why.

Preservation Term (years applicable):
The Project Area will be protected for 40 years or more by the Kendall County Forest Preserve District.

Filename: 4 Reservation Woods Warranty Deed, 5 Reservation Woods Declaration of Development Restrictions

Preservation Commitment explanation:
The Kendall County Forest Preserve District executed a Declaration of Development Restrictions on July 19, 2022 which protects the forest in the Project Area for no less than 40-years. As included in the Declaration of Development Restrictions, the covenants and restrictions declared, granted, conveyed and established under this Declaration shall remain in effect as long as it is needed to satisfy the requirements of any applicable carbon protocol under which carbon credits may be issued for the carbon preserved in the trees on the Property.

Date signed and date recorded:
Signed July 19, 2022
Recorded August 16, 2022

DEMONSTRATION OF THREAT OF LOSS (Section 4.2, 4.3, and 4.4)

Describe the Project Area land use designation that allows for at least one non-forest use. Describe any overlay zones such as critical areas and their protection buffers, legal encumbrances, and any other pre-existing tree/forest restrictions that may have hindered removal of the Project Trees (in the pre-Preservation Commitment condition). Provide supporting evidence.

Land use designation(s):

The parcels, prior to acquisition and preservation, were both zoned A1-Agriculture. By law, following acquisition, the parcels automatically became forest preserves under State of Illinois law under the provisions of the Illinois Downstate Forest Preserve District Act (SPECIAL DISTRICTS (70 ILCS 805/). Under the Act, the District is able to participate in a carbon crediting program.

Prior to acquisition, parcels were eligible for development under the provisions of the (765 ILCS 205/) Plat Act. https://www.ilga.gov/legislation/ilcs/ilcs3.asp?ActID=2169&ChapterID=62

Kendall County remains the fastest growing county in Illinois based on the 2012 and 2020 census.

Prior to acquisition, three subdivisions were constructed to the north, east, and south of the Reservation Woods Acquisition Area. Henneberry Woods Forest Preserve, a 248-acre forest preserve located to the east was acquired by the District after a planned subdivision defaulted during the 2007 recession.

Filename: 6 Reservation Woods Relevant Zoning Information, 7 Reservation Woods Henneberry Plan for Subdivision

Overlay zones or other restrictions: None.

Filename: N/A

Threat of loss (Section 4.4 A, B, or C):
Describe which of the three conditions the Project Area meets and provide supporting evidence such as maps, sale or assessed value documentation, or appraisal information.

The Project meets the CFC Tree Preservation Protocol Criteria 4.4 B: "Had been sold or conveyed or had an assessed value within three years of preservation under Subsection 4.1 for greater than $8,000 average price per acre for the bare land."

The sale price in Attachment 8 below shows $124,270 for 10.1 acres, which is approximately $12,304 per acre.

Filename: 8 Reservation Woods Master Closing Statement

ATTESTATION OF NO DOUBLE COUNTING OF CREDITS AND NO NET HARM (Section 5)

Complete and attach the following attestation: Attestation of No Double Counting of Credits and Attestation of No Net Harm. Provide any additional notes as relevant.

Kendall County Forest Preserve District signed the attestation of no double counting of credits and no net harm, see attached.

Filename: 9 Reservation Woods Attestation of No Double Counting of Credits and No Net Harm

ADDITIONALITY (Section 6)

Additionality is demonstrated by carbon projects in several ways, as described in the City Forest Credits Standard Section 4.9.1 and Tree Preservation Protocol.

Project Operator demonstrates that additionality was met through the following:

- Prior to the start of the project, the trees in the project area are not protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees
    - See Demonstration of Threat of Loss section above
- The zoning in the project area must currently allow for a non-forest use
    - See Demonstration of Threat of Loss section above
- The trees in the project area face some threat risk of removal or conversion out of forest
    - See Demonstration of Threat of Loss section above
- The Project Operator records in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years or 100 years (40 or 100 years depending on the protocol version)
    - See Preservation Commitment section above

Taken together, the above elements allow crediting only for unprotected trees, at risk of removal, which are then protected by a project action of preservation, providing additional avoided GHG emissions.

Additionality is embedded also in the quantification methodology. Projects cannot receive credits for trees that would have remained had development occurred, nor can they receive soil carbon credits for soil that would have been undisturbed had development occurred.

A signed attestation of additionality showing that Kendall County Forest District Preserve has met the above additionality requirements is attached.

Filename: 10 Reservation Woods Attestation of Additionality

CARBON QUANTIFICATION DOCUMENTATION (Section 11)

Follow detailed instructions in the Protocol for conducting quantification and use the Carbon Quantification calculator to show calculations. Ensure that your requested credit issuance schedule (issuance dates) is accurate and complete in the calculator. Project Operators should describe and appropriately reflect in their carbon quantification any and all planned future activities that may affect the percent canopy or carbon stocking in any way.

Summary numbers from Carbon Quantification Calculator

Project Area (acres)	**10.1**
Does carbon quantification use stratification (yes or no)	**No**
Accounting Stock (tCO_2e)	**2,114**
On-site avoided biomass emissions (tCO_2e)	**1,903**
On-site avoided soil carbon emissions (tCO_2e)	**1,089**
Deduction for displaced biomass emissions (tCO_2e)	**348**
Deduction for displaced soil emissions (tCO_2e)	**330**
Credits from avoided biomass emissions (tCO_2e)	**1,554**
Credits from avoided soil emissions (tCO_2e)	**759**
Total credits from avoided biomass and soil emissions (tCO_2e)	**2,314**
Credits attributed to the project (tCO_2e), excluding future growth	**2,314**
Contribution to Registry Reversal Pool Account	**231**
Total credits to be issued to the Project Operator (tCO_2e) *(excluding future growth)*	**2,082**

GHG Assertion:
Project Operator asserts that the Project results in GHG emissions mitigation of 2,082 tons CO_2e issued to the project.

Approach to quantifying carbon
Describe general approach you used to quantify carbon (e.g. US Forest Service General Technical Report NE-343 Tables, inventory, other). Provide documentation.

Davey Resource Group (DRG) provided on-site plot-sample inventory work to determine the carbon stock. DRG conducted a sample forest assessment adhering to the standards set form in CFC Tree Preservation Protocol Section 11.1.B. The sample established 10 sample plots sized at 1/10th-acre. Within every plot, each live tree was inventoried that was at least 5" in diameter at 4.5' above the ground, where the height above the ground is measured on the uphill side of the tree. Species, diameter, and overall tree condition were recorded for each tree. The CFC Carbon Calculator was used for quantification for subsequent steps 11.2, 11.4, and 11.5.

Filename: 11 Reservation Woods Carbon Quantification Calculator, 12 Reservation Woods Plot Locations Map, 13 Reservation Woods On-site inventory raw data

Accounting Stock Measurement Method (11.1)
Describe quantification, including which method used to assess canopy cover (e.g. i-Tree, inventory, other), forest type, and data sources.

DRG completed a sample inventory using randomized 1/10th- acre plots, following section 11.1.B in the CFC Tree Preservation Protocol. DRG used i-Tree Eco to determine the accounting stock and used a standard error of 13%.

Carbon quantification is based on the sample plots. The metric tons of Carbon is 664.52. The standard error is 87.96.

Biomass tC/ac = (metric tons of carbon – standard error)/project area acres = (664.52 – 87.96)/10.0869 = 57.16 (cell B11 on attachment 11)

Filename: 14 Reservation Woods Carbon Biomass

Stratification
If stratification is used, maps of strata and stratum definitions. If not used, list not applicable.

The project area was treated as one stand, thus DRG did not use stratification.

Stand Maps
Describe the methods used to determine forest stands (e.g. GIS) and documentation.

The project area was treated as one stand and DRG used on-site quantification method 11.1.B to quantify the carbon stock.

Forest Age
Provide historical imagery or other materials to support forest age documentation. Describe the method(s) used:

An on-site inventory was completed, so no documentation of forest age is necessary for carbon quantification for this project.

Forest Composition – Floristic Quality Inventory
Describe forest composition and explanation of method(s) used.

Floral inventories were conducted from early May until late September (May 12, 20, June 1, July 7, 28, and September 9 and 29) during the 2018 growing season to ensure the observation and accurate identification of vascular plant species with different phenologies. Inventories were conducted by surveying the entire Henneberry Woods Forest Preserve and cataloging all vascular plants observed. It is estimated, that with due care, approximately 70-90% of the site's existing flora can be recorded in a given year. Ideally, inventories should be conducted over two to three growing seasons to lessen the potential effects of annual variation in species occurrences (Wilhelm 1991). Care was taken to note locations of rare species and those that are monitored by the Chicago Botanic Garden's Plants of Concern program. The locations of rare and potentially invasive species located in 2018 were shown to the Forest Preserve Staff. Voucher specimens of those species not previously recorded for Kendall County were secured and deposited at the herbarium of the Morton Arboretum in Lisle, Illinois.

The immature woodland community is in the northeastern portion of the preserve, adjacent to the shrubby fields and mesic upland woodland and is a transition between those two communities. This area contains wild black cherry (*Prunus serotina*), boxelder (*Acer negundo*), American elm (*Ulmus americana*), and black walnut (*Juglans nigra*).

The mesic woodland community is in the far northeastern portion of the preserve. The area that it covers is quite small – covering roughly an acre. Trees in this area included sugar maple (*Acer saccharum*), American linden (*Tilia americana*), white oak (*Quercus alba*), and red oak (*Q. rubra*).

Filename: 15 Reservation Woods Floral Survey of Henneberry Woods

Canopy Cover
Provide i-Tree Canopy report that shows estimated percentage of tree cover. Explanation of method(s) used:

An on-site inventory was completed, so no documentation of canopy cover is necessary for carbon quantification for this project. However, an i-Tree Canopy report was completed to quantify the co-benefits and the total canopy cover is 88%.

Filename: 16 Reservation Woods i-Tree Canopy Report

Area Expected to Remain in Trees after Potential Development (11.2)
Describe how you determined the area expected to remain in trees after potential development (fraction at risk) and explanation of method(s) used:

Reservation Woods was zoned as A-1 agriculture prior to preservation. Section 11.2 in CFC's Preservation Protocol allows for 90% of the Accounting Stock on the Project Area is the "Avoided Biomass Emissions" on agricultural lands.

Filename: 6 Reservation Woods Relevant Zoning Information

Quantification of Soil Carbon - Existing Impervious Area and Impervious Limits (11.4)
The Project may claim avoidance of emissions from soil carbon caused by conversion of soils to impervious surfaces. Describe applicable zoning and development rules, existing impervious area and maximum fraction impervious cover.

Reservation Woods was zoned as A-1 agriculture prior to preservation and 90% of the Project Area is eligible for conversion to impervious surface. The applicable zoning and development rules do not limit impervious area. Section 11.4 in CFC's Preservation Protocol allows for 90% of the Project Area in agricultural (where annual crops and plowing are common practices in that region) may be attributed to being eligible for conversion to impervious surface.

Filename: *6 Reservation Woods Relevant Zoning Information*

Future Planned Project Activities
Describe any future project activities that may affect the percent canopy or carbon stocking in any way.

Reservation Woods will be conserved in perpetuity and maintained and managed as a natural area. Future development will be limited to turf hiking trails.

CO-BENEFITS QUANTIFICATION DOCUMENTATION (Section 11.6)

Summarize co-benefit quantification and provide supporting documentation. CFC will provide a Co-Benefits Quantification spreadsheet to Project Operators for calculating rainfall interception, reduction of certain air compounds, and energy savings.

Ecosystem Services	***Resource Units***	***Value***
Rainfall Interception (m3/yr)	2,407.5	$17,237.56
Air Quality (t/yr)	0.1008	$151.72
Cooling – Electricity (kWh/yr)	18,952	$1,438.45
Heating – Natural Gas (kBtu/yr)	354,369	$3,449.70
Grand Total ($/yr)		**$22,277.43**

Filename: *16 Reservation Woods i-Tree Canopy Report, 17 Reservation Woods Co-Benefit Calculator*

SOCIAL IMPACTS (Section 12)

Project Operators shall use the Carbon Project Social Impact template to evaluate the UN Sustainable Development Goals (SDGs) to determine how a Project provides social impacts that contribute towards achievement of the global goals. CFC will provide the template. Summarize the three to five main SDGs from this Project.

Three of the UN Sustainable Development Goals align with the Reservation Woods project. These include Good Health and Well Being, Life Below Water, and Life on Land.

SDG 3, Good Health and Well Being: This project is protecting trees within a remnant forested area that has retained a high-quality native plant community based on floristic quality studies within 10.1 acres at Reservation Woods – Henneberry Forest Preserve. This effort will continue to reduce or remove air pollutants. This woodland will continue to create shade, provide UV exposure protection, reduce extreme heat negative effects, and reduce temperatures to relieve urban heat effects. Additionally, it will buffer sounds, optimize biodiversity, and therefore continue to offer wonderful nature experiences. It will encourage recreation by providing trails connecting the preserve's diverse habitat areas.

SDG 14, Life Below Water: This project protects the headwaters of Morgan Creek. The woodlands provide shading to the ephemeral streams, reducing surface water temperatures. Transpiration promotes a microclimate where ambient air temperatures is cooled. This project continues to improve infiltration rates and it enhances wildlife habitat, such as riparian habitat for fish, birds, and other animals.

SDG 15, Life on Land: This project conserves wildlife habitat to provide important refuge for local biodiversity. Furthermore it will reduce storm water runoff, provide buffers adjacent to streams, and

therefore will prevent soil erosion. The District's natural areas management activities will continue to enhance wildlife habitat by monitoring for, and removing invasive species to optimize biodiversity.

Filename: *18 Reservation Woods Social Impacts*

MONITORING AND REPORTING (Section 8)

Throughout the Project Duration, the Project Operator must report on tree conditions across the Project Area. Monitoring reports are due every three years determined by the date of the verification report. For example, if the verification report is dated January 1, 2021, the first report will be due by January 1, 2024 and every three years thereafter for the duration of the project.

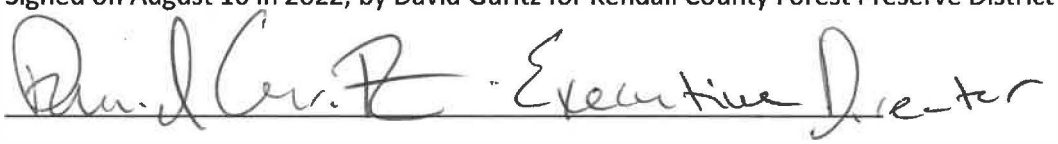
Describe your monitoring plans. If Project Operator plans to claim credits for future growth, describe methods that will be used to quantify future growth.

Kendall County Forest Preserve District will submit triennial monitoring reports as specified in the protocol.

The District will monitor for invasive species, and continue to implement natural area management prescriptions including invasive species removal and possibly reintroduce prescribed burning to this area.

PROJECT OPERATOR SIGNATURE

Signed on August 16 in 2022, by David Guritz for Kendall County Forest Preserve District



David Guritz, Executive Director – Kendall County Forest Preserve District
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ATTACHMENTS

List the number and name of attachments

1 Reservation Woods Geospatial location of Project Area.kmz
2 Reservation Woods Regional Map
3 Reservation Woods Project Area Map
4 Reservation Woods Warranty Deed
5 Reservation Woods Declaration of Development Restrictions
6 Reservation Woods Relevant Zoning Information
7 Reservation Woods Henneberry Plan for Subdivision
8 Reservation Woods Master closing statement
9 Reservation Woods Attestation of No Double Counting and No Net Harm
10 Reservation Woods Attestation of Additionality
11 Reservation Woods Carbon Quantification Calculator
12 Reservation Woods Plot locations map
13 Reservation Woods On-site inventory raw data
14 Reservation Woods Carbon Biomass
15 Reservation Woods Floral Survey of Henneberry Woods
16 Reservation Woods i-Tree Canopy Report
17 Reservation Woods Co-Benefit Calculator
18 Reservation Woods Social Impacts

Attachments

Deed

Project Area Map

Regional Area Map

Preservation Commitment

Zoning Maps

Zoning Description(s)

Threat of Loss Demonstration

Attestation of No Double Counting and No Net Harm

Attestation of Additionality

Carbon Quantification Tool

Tree Inventory

Tree Characteristics Chart(s)

iTree Canopy Report

Cobenefit Calculator

Social Impacts

Deed

Instrument prepared by:

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After recording mail to:

Lisa A. Coffey
Law Office of Lisa A. Coffey, P.C.
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Oswego, Illinois 60543

SPECIAL WARRANTY DEED OF DONATION

The Grantor, THE CONSERVATION FOUNDATION, an Illinois not-for-profit corporation, having its principal address at 10S404 Knoch Knolls Road, Naperville, Illinois 60565 for and in consideration of Ten Dollars ($10.00), and other good and valuable considerations in hand paid, does hereby Convey, Warrant and Donate to the KENDALL COUNTY FOREST PRESERVE DISTRICT, a body corporate and politic, having its principal office located at 110 West Madison Street, Yorkville, Illinois 60560, all interest in the following described real estate in its "as is, where is" condition, situated in the County of Kendall, in the State of Illinois, to wit:

Legal description attached hereto and incorporated herein as **Exhibit A.**

Subject to: (a) general real estate taxes, if any, for the year 2022 and subsequent years and any special assessments not yet due and payable as of the date of closing; (b) building, building line and use or occupancy restrictions; (c) conditions and covenants of record that do not adversely affect the District's intended use of the property; (d) zoning laws and ordinances; (e) easements for public utilities; (f) drainage ditches, feeders, laterals and drain tile, pipe or other conduit.

To Have and to Hold the said premises as above described, with the appurtenances, unto the Grantee, forever.

This transaction is exempt from Illinois Real Estate Transfer Tax under provisions of paragraph (b), Section 31-45 of the Real Estate Transfer Tax Law (35 ILCS 200/31-45).

BY: _____

Permanent Index Nos.: 05-01-400-004 and 05-01-400-005

Commonly known as: Approximately 5.297 acres and 4.7899 acres, for a total of 10.0869 acres located in close proximity to Reservation Woods, generally

north of Route 126, east of Minkler Road, west of Grove Road and south of Reservation Road, Oswego, Kendall County, Illinois 60543

Dated this 26th day of January, 2022.

THE CONSERVATION FOUNDATION, an Illinois not-for-profit corporation

BY: _____
Daniel P. Lobbes
Vice President, Land & Watershed Programs

STATE OF ILLINOIS)
) SS
COUNTY OF WILL)

I, the undersigned, a Notary Public in and for the County and State aforesaid, DO HEREBY CERTIFY that Daniel P. Lobbes personally known to me to be the Vice President, Land & Watershed Programs of The Conservation Foundation, an Illinois not-for-profit corporation, personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that as such Vice President, Land & Watershed Programs, he signed and delivered the said instrument and caused the corporate seal of said corporation to be affixed thereto, pursuant to authority given by the Board of Trustees of said corporation, as his free and voluntary act, and as the free and voluntary act and deed of said corporation, for the uses and purposes therein set forth.

Given under my hand and official seal this 26th day of January, 2022.

_____
Notary Public

"OFFICIAL SEAL"
RACHEL K. ROBERT
Notary Public, State of Illinois
My Commission Expires 06/06/24

Real estate tax bills should be mailed to:

Kendall County Forest Preserve District
110 West Madison Street
Yorkville, Illinois 60560

Project Area Map

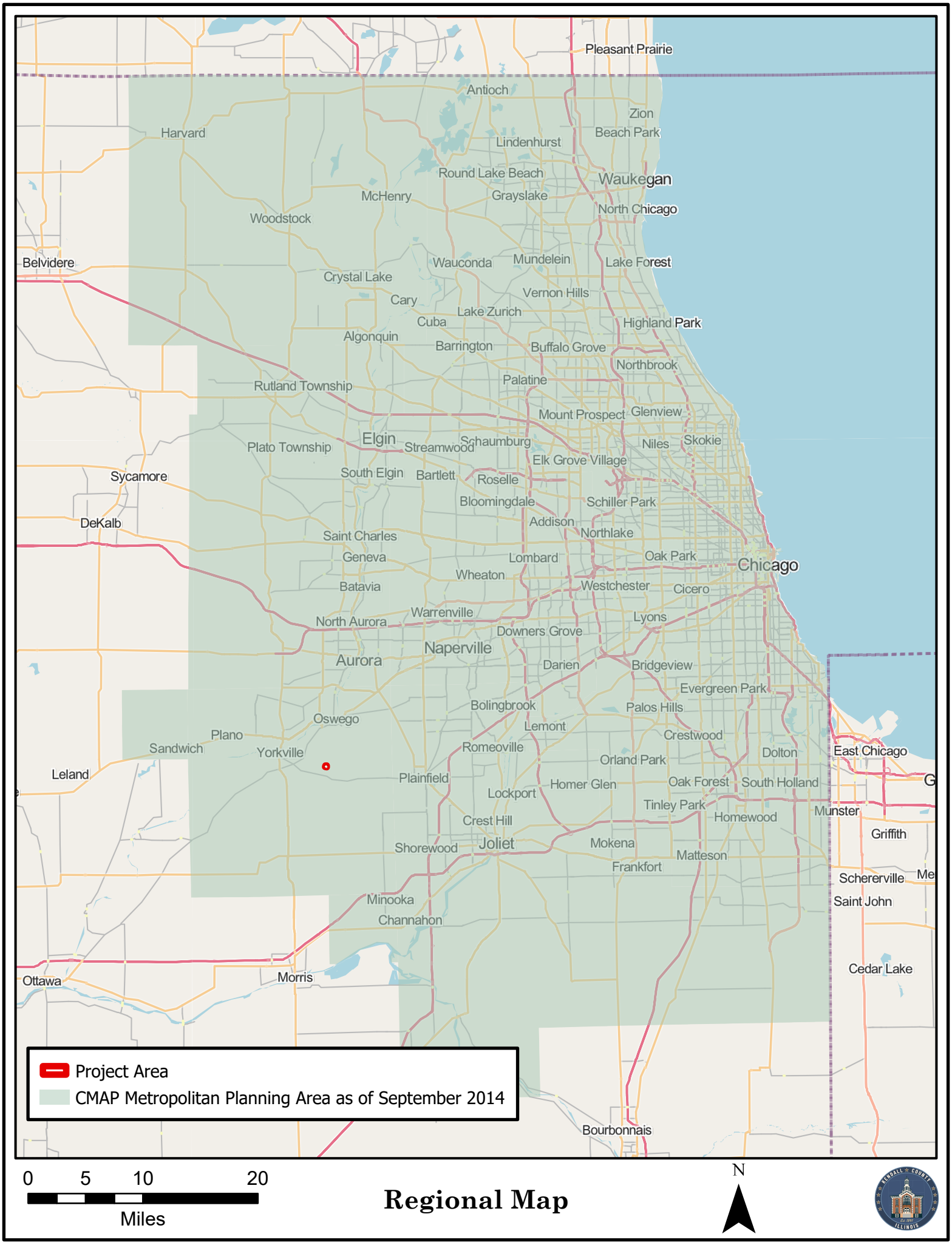
0 200 400 800

Feet

Project Area Map

N

Regional Area Map



Regional Map

Preservation Commitment

STATE OF ILLINOIS
COUNTY OF KENDALL
- FILED -
AUG 16 2022
COUNTY CLERK
KENDALL COUNTY

DECLARATION OF DEVELOPMENT RESTRICTIONS

Grantor: Kendall County Forest Preserve District – Kendall County, Illinois
110 W. Madison Street Yorkville, IL 60560

Grantee: Kendall County Forest Preserve District – Kendall County, Illinois
110 W. Madison Street Yorkville, IL 60560

Legal Description:
Sub Lot 50 of Section 1, Township 36 North, Range 7 East of the third principal meridian according to the plat of known as Assessor's Plat of said section, recorded in the Recorder's Office of Kendall County, Illinois, in Plat Book 3, Page 58, situated in the Township of Kendall, Kendall County, Illinois.

AND

Sub Lot 51 of the Southeast Quarter of Section 1, Township 36 North, Range 7 East of the Third Principal Meridian, as shown in Plat Book 2 at Page 1, all in Kendall Township, Kendall County, Illinois.

Assessor's Tax Parcel Identification No(s): Lot 50 PIN# 05-01-400-004 AND Lot 51 PIN# 05-01-400-005

Reference No. of Related Documents: 202200002644 – Special Warranty Deed of Donation

THIS DECLARATION OF DEVELOPMENT RESTRICTIONS (the "DECLARATION") is made this 19TH day of July, 2022, by the Kendall County Forest Preserve District, an Illinois municipal government entity ("Declarant"), for the purpose of clarifying the development restrictions on property at Sub Lot 50 of Section 1, Township 36 North, Range 7 East and Sub Lot 51 of Section 1, Township 36 North, Range 7 East in Kendall County, Illinois.

RECITALS

A. Declarant is the owner of certain property in Kendall County, State of Illinois, addressed as the Reservation Woods Parcels (Jaross and Parish) more particularly described in EXHIBIT A attached hereto and incorporated by reference ("Subject Parcels Lot 50 and Lot 51"). Subject shall be referred to as the "Property" hereafter.

B. Declarant purchased the Property from The Conservation Foundation on January 26, 2022.

C. Declarant is a forest preserve district established in 1964 by voter referendum under the provisions of the Illinois Downstate Forest Preserve District Act (70 ILCS 805/).

D. Declarant recognizes the value of the Property's mature forest as a climate asset. The trees on the Property store CO_2, reduce storm water runoff, improve air quality, provide energy savings from cooling and heating effects, and improve human health by providing cleaner air and a place for recreation, exercise and the public health benefits of exposure to nature. Clearing of the trees for other uses, such as parking lots, playfields or other uses would seriously impair the climate value of the Property.

E. Declarant has successfully completed the acquisition of the Property from The Conservation Foundation.

F. Declarant is an active participant within the City Forest Credits efforts to develop a forest carbon program with The Morton Arboretum – Chicago Region Trees Initiative, whereby the District will preserve forested stands and earn carbon credits for those preserved trees. Declarant has established a project with the non-profit carbon registry, City Forest Credits, which has developed carbon protocols and issues credits for qualifying tree-preservation and tree-planting projects in urban areas.

G. Declarant intends by this Declaration to preserve the trees on the Property for a period of no less than 40 years. It understands that this Declaration will bar the clearing or removing of trees for parking lots, picnic shelters, playfields, visitor centers, or any reason other than forest health, hazard, disease, fire, and small, non-motorized recreational trials.

DECLARATION

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Declarant, as owner of the Property, hereby declares, grants, imposes, conveys, establishes, and accepts the following development restrictions and covenants which shall run with the land and be binding upon all owners of the Property:

1. *Removal of Trees*. Declarant shall not cut down, destroy, or remove trees located on the Property, except as necessary to control or prevent hazard, disease or fire or to improve forest health, Recreational non-motor-use trails have negligible or de minimis impacts on biomass and carbon stock and are permissible.

GENERAL PROVISIONS

2. Run with land. The covenants and restrictions declared, granted, conveyed and established under this Declaration shall run with the land and inure to the benefit of, and be binding upon, Declarant and its heirs, beneficiaries, successors and assigns, and all future owners of the Property.

3. Term and modification. The covenants and restrictions declared, granted, conveyed and established under this Declaration shall remain in effect as long as it is needed to satisfy the requirements of any applicable carbon protocol under which carbon credits may be issued for the carbon preserved in the trees on the Property.

4. Governing law and venue. The terms and provisions of this Declaration shall be governed, construed, and enforced in accordance with the laws of the State of Illinois. Venue for any lawsuit arising out of this Declaration shall be in Kendall County, Illinois.

5. Severability. In case any one or more of the provisions contained in this Declaration shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions of this Declaration, but this Declaration shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein.

Dated this 19TH Day of July, 2022.

Kendall County Forest Preserve District, Kendall County, Illinois

By: _____

Name: Judy Gilmour
Title: President, Kendall County Forest Preserve District

Attest: _____

Name: Elizabeth Flowers
Title: Secretary, Kendall County Forest Preserve District

STATE OF ILLINOIS }
ss.
COUNTY OF KENDALL }

I certify that I know or have satisfactory evidence that Judy Gilmour and Elizabeth Flowers are the individuals who appeared before me, and said persons acknowledged that they signed this instrument, on oath stated that they were authorized to execute the instrument and acknowledged it as the President and Secretary of the Kendall County forest Preserve District, respectively, to be the free and voluntary act of such for the uses and purposes mentioned in the instrument.

Dated this 19TH day of July, 2022.

_____

Printed Name: _____

NOTARY PUBLIC in and for the State of Illinois,

Residing at _____

My Commission Expires _____

OFFICIAL SEAL
MARSHA L NOSS
NOTARY PUBLIC, STATE OF ILLINOIS
MY COMMISSION EXPIRES: 07/29/2026

EXHIBIT A

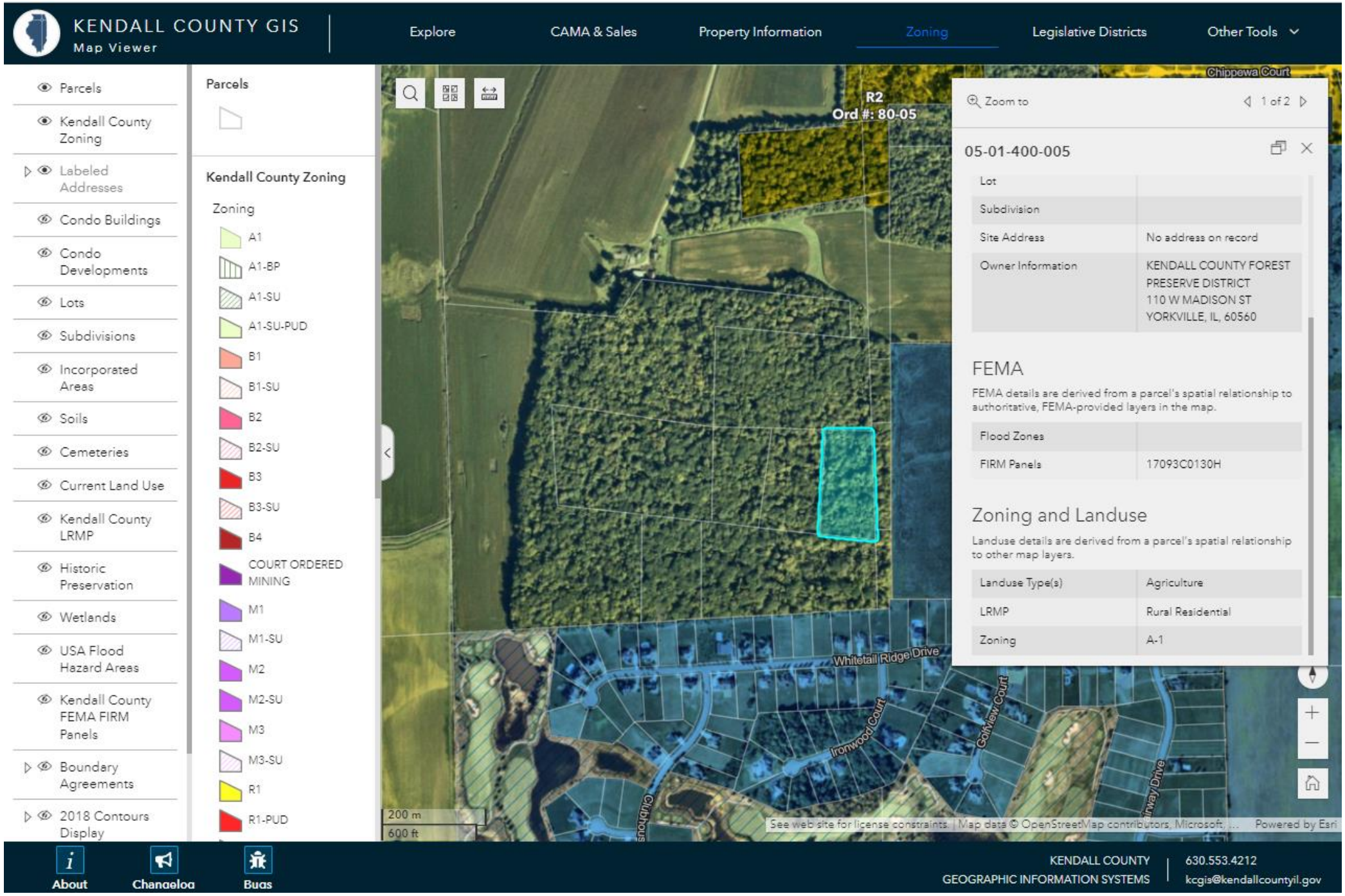
LEGAL DESCRIPTION

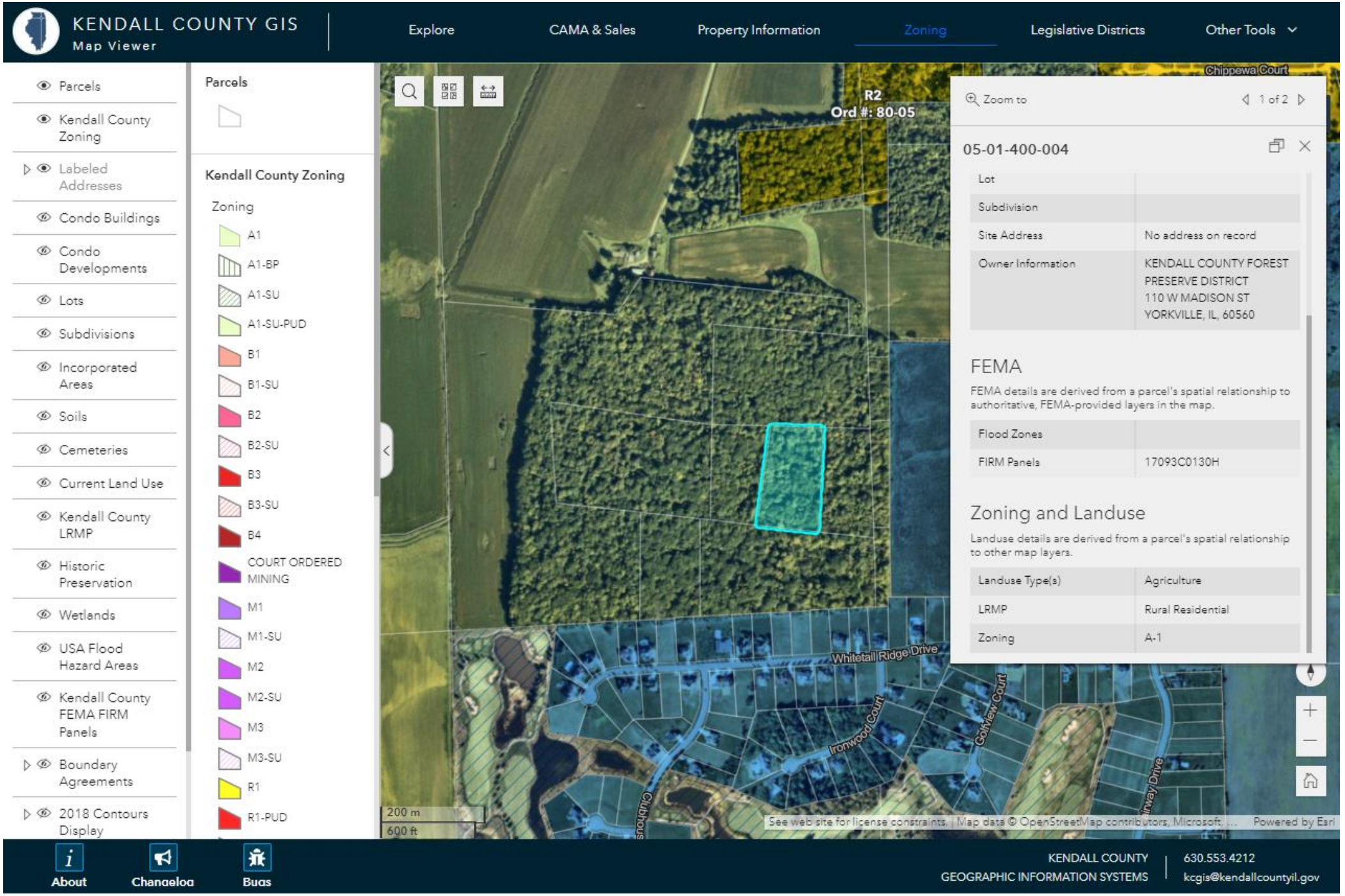
Sub Lot 50 of the Southeast Quarter Section 1, Township 36 North, Range 7 East of the Third Principal Meridian according to the Assessor's Plat of said section, recorded in the Recorder's Office of Kendall County, Illinois, plat as shown in Plat Book 3, Page 58, situated in the Township of Kendall, Kendall County, Illinois.

AND

Sub Lot 51 of the Southeast Quarter of Section 1, Township 36 North, Range 7 East of the Third Principal Meridian, as shown in Plat Book 2, Page 1, all in Kendall Township, Kendall County, Illinois.

Zoning Maps


KENDALL COUNTY GIS
Map Viewer
Explore
CAMA & Sales
Property Information
Zoning
Legislative Districts
Other Tools
Parcels
Kendall County Zoning
Labeled Addresses
Condo Buildings
Condo Developments
Lots
Subdivisions
Incorporated Areas
Soils
Cemeteries
Current Land Use
Kendall County LRMP
Historic Preservation
Wetlands
USA Flood Hazard Areas
Kendall County FEMA FIRM Panels
Boundary Agreements
2018 Contours Display
Parcels
Kendall County Zoning
Zoning
A1
A1-BP
A1-SU
A1-SU-PUD
B1
B1-SU
B2
B2-SU
B3
B3-SU
B4
COURT ORDERED MINING
M1
M1-SU
M2
M2-SU
M3
M3-SU
R1
R1-PUD
R2
Ord #: 80-05
Chippewa Court
Zoom to
1 of 2
05-01-400-005
Lot
Subdivision
Site Address
No address on record
Owner Information
KENDALL COUNTY FOREST PRESERVE DISTRICT
110 W MADISON ST
YORKVILLE, IL, 60560
FEMA
FEMA details are derived from a parcel's spatial relationship to authoritative, FEMA-provided layers in the map.
Flood Zones
FIRM Panels
17093C0130H
Zoning and Landuse
Landuse details are derived from a parcel's spatial relationship to other map layers.
Landuse Type(s)
Agriculture
LRMP
Rural Residential
Zoning
A-1
Whitetail Ridge Drive
Ironwood Court
Golfview Court
200 m
600 ft
See web site for license constraints. | Map data © OpenStreetMap contributors, Microsoft, ... Powered by Esri
About
Changelog
Bugs
KENDALL COUNTY
GEOGRAPHIC INFORMATION SYSTEMS
630.553.4212
kcgis@kendallcountyil.gov


KENDALL COUNTY GIS
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Zoning
A1
A1-BP
A1-SU
A1-SU-PUD
B1
B1-SU
B2
B2-SU
B3
B3-SU
B4
COURT ORDERED MINING
M1
M1-SU
M2
M2-SU
M3
M3-SU
R1
R1-PUD
R2
Ord #: 80-05
Chippewa Court
Zoom to
1 of 2
05-01-400-004
Lot
Subdivision
Site Address
No address on record
Owner Information
KENDALL COUNTY FOREST PRESERVE DISTRICT
110 W MADISON ST
YORKVILLE, IL, 60560
FEMA
FEMA details are derived from a parcel's spatial relationship to authoritative, FEMA-provided layers in the map.
Flood Zones
FIRM Panels
17093C0130H
Zoning and Landuse
Landuse details are derived from a parcel's spatial relationship to other map layers.
Landuse Type(s)
Agriculture
LRMP
Rural Residential
Zoning
A-1
Whitetail Ridge Drive
Ironwood Court
Golfview Court
Clubhouse
Fairway Drive
200 m
600 ft
See web site for license constraints. | Map data © OpenStreetMap contributors, Microsoft, ... Powered by Esri
About
Changelog
Bugs
KENDALL COUNTY
GEOGRAPHIC INFORMATION SYSTEMS
630.553.4212
kcgis@kendallcountyil.gov

Zoning Description(s)

C. USES PERMITTED

1. Accessory Uses. Accessory uses, structures, and buildings shall be permitted provided such uses, structures or buildings comply with the regulations of Section 4:05.
2. Crop and tree farming
3. Dairy and livestock farming
4. Dwelling Unit for Watchmen and Families including a Caretaker
5. Farming
6. Farm Animals
7. Forest Preserve
8. Forestry
9. Game breeding
10. Grazing and forage
11. Greenhouses and nurseries
12. Group Homes, subject to the following:
    a. No more than eight (8) persons plus staff.
    b. Licensed or certified by the State of Illinois.
    c. A minimum distance of one thousand (1,000) feet is maintained between group homes and adjacent properties as measured from the lot line.
13. Home occupation provided it follows the definition in Section 3:02, meets the conditions in Section 4:06 and an affidavit is filled out in the Planning, Building and Zoning office stating you meet those conditions.
14. Horse breeding and raising
15. Land Application of domestic septage with approval from the Health Department in accordance with the requirements set forth in the most recent version of the Kendall County Private Sewage Disposal Ordinance and the Illinois EPA.
16. Roadside stands, with not more than six hundred (600) square feet of gross floor area, including outdoor display, and set back at least ninety (90) feet from the center line of all adjacent roads, and with off-street parking for a minimum of five (5) cars, or one space for each fifty (50) square feet of structure, whichever is greater. Sales shall be limited to only those products grown or produced on the premises. Sales only permitted from March 15 through November 15.
17. Seasonal Festivals. *(Amended 1/4/22)*
18. Signs, as permitted and regulated by Section 12:00.
19. Single Family Residential Use, provided:
    a. *Standard Lot* - A new residence shall be permitted on a zoning lot forty (40) acres or larger. Prior to the construction of any new residence, the property owner shall file with the Kendall County PBZ Department a legal description detailing the location of the parcel, along with a sketch identifying the location of the proposed residence. The County will maintain records of parcels that have been allocated for single-family residences. *(Amended 12/16/03)*

    b. *Allocation* –Parcels of forty (40) acres or more in size shall be entitled to one allocation for a single-family residence for each forty acres of available land within the overall zoning lot. Available land shall be determined as the total acreage of any parcel regardless of the number of existing residences on the premises or replacement homes for which the parcel may be eligible. The available allocations shall be registered in accordance with the procedures outlined in subsection 7:01.C.18.e below. Prior to the construction of any new residence, the property owner shall file with the Kendall County PBZ Department a legal description detailing the location of the acreage to which the allocation(s) is/are being assigned. All parcels upon which a single-family residence is to be constructed utilizing a building permit allocation shall be a minimum of 130,000 square feet with a minimum lot width of 200 feet at the front building setback line. The County will maintain records of parcels that have been registered for single-family residences, and record the dimensions of the parcels upon which the single-family residences are built upon. *(Amended 9/15/20)*

https://www.kendallcountyil.gov/departments/planning-building-zoning/zoning-ordinance

c. *Existing Approved Lots* - Single Family Dwellings on zoning lots approved pursuant to the applicable regulations prior to 8th day of March, 1977, which are as follows:

i. Any three-quarter (3/4) acre lot, or larger, existing prior to July 17, 1959.
ii. Any vacant three (3) acre parcel or larger that existed prior to August 8, 1971.
iii. Any vacant five (5) acre parcel or larger that existed prior to August 28, 1972.
iv. Any vacant twenty (20) acre parcel or larger that existed prior to March 8, 1977.
v. Any lot in a subdivision or group of lots combined to meet the minimum area requirements of a zoning lot except as otherwise permitted under Section 5:15.B of this ordinance. *(Amended – 12/16/03)*

Parcels classified as "Existing Approved Lots" under subsection 18.c shall be registered on or before be December 29th, 2005. If an owner declines to register a parcel by this date, the burden of proof of the availability of a permit will shift to the owner, who shall be required to prove, by clear and convincing evidence, that a building permit allocation is applicable to the parcel in question. After December 29th, 2005, the owner of a zoning lot meeting the standards of 18.c above shall file a petition with the Kendall County PBZ Department to construct a new single family dwelling on an unregistered prior zoning lot. The petition shall be reviewed by the Zoning Administrator and approved, denied, or referred to the Planning, Building, and Zoning Committee of the County Board *(Amended 1/18/11)*. In considering the petition, the Zoning Administrator shall consider the following findings of fact:

- The petitioner must have purchased the property prior to May 1, 2000;
- The petitioner must demonstrate that the property was buildable under the applicable zoning regulations at the time it was purchased. *(Amended 9/15/20)*

Threat of Loss Demonstration

Chicago Title and Trust Company

508 Center Parkway, Suite B, Yorkville, IL 60560
Phone: (630)892-3775 | Fax: (630)892-9241

MASTER STATEMENT

Settlement Date: January 26, 2022
Disbursement Date: January 26, 2022
Escrow Number: 21CSA264366AU
Escrow Officer: Christian Ginocchio
Email: Christian.Ginocchio@ctt.com

Buyer: Kendall County Forest Preserve District
vacant (Lot 50)
Oswego, IL 60543

Seller: The Conservation Foundation
vacant (Lot 50)
Oswego, IL 60543

Property: vacant (Lot 50)
Oswego, IL 60543
Parcel ID(s): 05-01-400-004

Property: vacant (Lot 51)
Oswego, IL 60543

SELLER			BUYER	
$ DEBITS	$ CREDITS		$ DEBITS	$ CREDITS
		FINANCIAL CONSIDERATION		
	124,270.21	Sale Price of Property	124,270.21	
		PRORATIONS/ADJUSTMENTS		
	6,103.29	Attorney fees & Project fee	6,103.29	
		TITLE & ESCROW CHARGES		
		Title - Commitment Update Fee to Chicago Title Insurance Company	150.00	
		Title - CPL Fee to Buyer to Chicago Title Insurance Company	25.00	
		Title - CPL Fee to Seller to Chicago Title Insurance Company	50.00	
		Title - Escrow Fees to Chicago Title and Trust Company	1,500.00	
		Title - GAP Coverage (NYS Closing Fee) to Chicago Title Insurance Company	600.00	
		Title - Policy Update Fee to Chicago Title Insurance Company	150.00	
		Title - Recording Service Fee to Chicago Title Company, LLC	15.00	
		Title - Schedule B Documents to Chicago Title Company, LLC	100.00	
		Title - State of Illinois Policy Registration Fee to Chicago Title Insurance Company	3.00	
		Title - Owner's Title Insurance to Lisa A. Coffey / Chicago Title Company, LLC	1,750.00	
		SE 287 - Policy Modification 4 to Chicago Title Insurance Company	400.00	
		Policies to be issued: Owners Policy Coverage: $124,270.21 Premium: $1,750.00 Version: ALTA Owner's Policy 2006		

SELLER $ DEBITS	SELLER $ CREDITS		BUYER $ DEBITS	BUYER $ CREDITS
		GOVERNMENT CHARGES		
0.00		County Transfer Tax ($62.25) to Chicago Title Company, LLC	0.00	
0.00		State Transfer Tax to Chicago Title Company, LLC		
		MISCELLANEOUS CHARGES		
		Reimbursement of attorney fees and Project fee	0.00	
	130,373.50	**Subtotals**	135,116.50	
		Balance Due FROM Buyer		**135,116.50**
130,373.50		**Balance Due TO Seller**		
130,373.50	130,373.50	**TOTALS**	135,116.50	135,116.50

I have carefully reviewed the Settlement Statement and to the best of my knowledge and belief, it is a true and accurate statement of all receipts and disbursements made on my account or by me in this transaction. I further certify that I have received a copy of the Settlement Statement.

SELLER:

The Conservation Foundation

BY: David P. Jobbes

BUYER:

Kendall County Forest Preserve District

BY: Judy Gilmour, President

To the best of my knowledge, the Settlement Statement which I have prepared is a true and accurate account of the funds which were received and have been or will be disbursed by the undersigned as part of the settlement of this transaction.

Chicago Title and Trust Company
Settlement Agent

HENNEBERRY WOODS

Kendall County, Illinois

CLUBHOUSE FACILITY

PROPOSED KENDALL COUNTY FOREST PRESERVE PROPERTY ±216 Ac.

Yorkville CUSD 113 & Oswego CUSD [redacted] School District Boundary Line

EXISTING STONE BARN

GROVE ROAD

EXISTING LAKE

S.W.M.

SITE DATA		LAND USE	PERCENTAGE
Total Area		378.39 Ac.	100%
Existing Road R.O.W. Grove Road - 35'		1.80 Ac.	0.48%
Jurisdictional Wetlands		2.40 Ac.	0.63%
Buildable Acreage		374.19 Ac.	98.89%
Units - 30,000 S.F. Min.		242 DU.	
Density (Units / Development Area)		0.65 Du./Ac.	
Development Area		225.13 Ac.	59.50%
Open Space		149.06 Ac.	39.39%
TOTALS	242 DU.	378.39 Ac.	100.00%

CONCEPTUAL DEVELOPMENT PLAN

150' 600' 1200'
0' 300'
Graphic Scale

North

Date: January 27, 2010
Scale: 1" = 300'

PREPARED FOR:

CRESTVIEW BUILDERS INCORPORATED
4004 Falcon Drive
Naperville, Illinois 60564

MOSER ENTERPRISES, INC.
Moser Enterprises, Inc.
401 South Main St.
Suite 300
Naperville, IL 60540

PREPARED BY:

sda
Schoppe Design Associates, Inc.
LAND PLANNING & LANDSCAPE ARCHITECTURE
126 S. Main Street
Oswego, IL 60543
p: 630 551-3355
f: 630 551-3639
schoppedesign.net

Attestation of No Double Counting and No Net Harm

CITY FOREST
CREDITS

Reservation Woods Acquisition Project
Attestation of No Double Counting of Credits & No Net Harm

I am the Executive Director of the Kendall County Forest Preserve District, Kendall County, Illinois and make this attestation regarding the no double counting of credits and no net harm from this tree preservation project, Reservation Woods Acquisition Project.

1. 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.

2. No Double Counting by Applying for Credits from another Registry

Kendall County Forest Preserve District, Kendall County, Illinois has not and will not seek credits for CO_2 for the project trees or for this project from any other organization or registry issuing credits for CO_2 storage.

3. No Double Counting by Seeking Credits for the Same Trees or Same CO_2 Storage

Kendall County Forest Preserve District has not and will not apply for a project including the same trees as this project nor will it seek credits for CO_2 storage for the project trees or for this project in any other project or more than once.

4. No Net Harm

The trees preserved in this project will produce many benefits, as described in our Application and PDD. Like almost all urban trees, the project trees are preserved for the benefits they deliver to people, communities, and the environment in a metropolitan area.

The project trees will produce many benefits and will not cause net harm. Specifically, they will not:

- Displace native or indigenous populations
- Deprive any communities of food sources
- Degrade a landscape or cause environmental damage

Signed on September 20 in 2022, by David Guritz, Executive Director for the Kendall County Forest Preserve District, Kendall County, Illinois.

Signature

630-553-4131 (office / 630-538-6303 (cell)
Phone

dguritz@kendallcountyil.gov
Email

Attestation of Additionality

CITY FOREST CREDITS

Reservation Woods Acquisition Project
Attestation of Additionality

I am the Executive Director of the Kendall County Forest Preserve District, Kendall County, Illinois and make this attestation regarding additionality from this tree preservation project, Reservation Woods Acquisition Project.

- Project Description
  - The Project that is the subject of this attestation is described more fully in our Application and our Project Design Document (PDD), both of which are incorporated into this attestation.
- Prior to the start of the project, the trees in the project area were not protected via easement or recorded encumbrance or in a protected zoning status that preserves the trees
- The zoning in the project area currently allows for a non-forest use
- The trees in the project area face a threat or risk of removal or conversion out of forest
- Kendall County Forest Preserve District recorded in the public land records an easement, covenant, or deed restriction specifically protecting the trees for the project duration of 40 years.
- Additionality is also embedded in the quantification methodology that our project followed. Projects cannot receive, and our project will not receive, credits for trees that would have remained had development occurred, nor can they receive soil carbon credits for soil that would have been undisturbed had development occurred. Our project also had to apply a discount to credited carbon for potential displaced development due to the project.
- Project Implementation Agreement for Project Duration
  - Kendall County Forest Preserve District signed a Project Implementation Agreement with City Forest Credits for 40 years.

Signed on September 20 in 2022, by David Guritz, Executive Director the Kendall County Forest Preserve District, Kendall County, Illinois.

Signature

David Guritz
Printed Name

630-553-4131 (office) 630-538-6303 (cell)
Phone

dguritz@kendallcountyil.gov
Email

Carbon Quantification Tool

City Forest Credits - Preservation Protocol Carbon Quantification Calculator

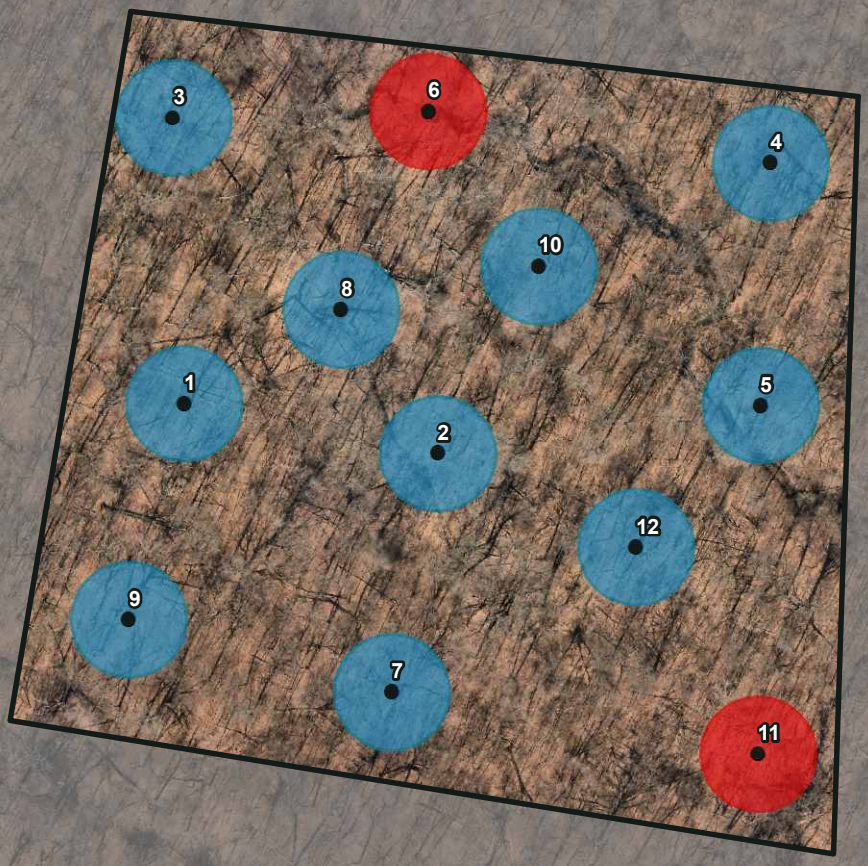
Project Operator Kendall County Forest Preserve District
Project Name Reservation Woods
Project Location Kendall County, IL
Date 10/14/2022

Carbon Quantification Summary		**Protocol Section**	**Supplemental information/notes**
10.0869	Total Project Area Acres		include project area for all parcels enrolled in carbon project
57.16	Biomass tC/ac	11.1.B	A complete inventory was performed on all trees within the project area that had a diameter at breast height of 5 inches or more, corresponding to method 11.1.B , include i-Tree eco results
209.59	Biomass tCO2e/ac	11.1.B	
2,114	Accounting Stock, tCO2e	11.1.B	
90%	Fraction at risk of tree removal	11.2	Based on zoning - see 11.2 in preservation protocol
1,903	Avoided Biomass Emissions, tCO2e	11.2	
90%	Avoided impervious surface, percent	11.4	Based on zoning - see 11.4 in preservation protocol
9	Avoided impervious surface, acres	11.4	
1,089	Avoided Soil Carbon Emissions, tCO2e	11.4	
18.3%	Displacement	11.5	Fraction of avoided development that cannot be served by development or re-development of existing non-treed properties within the urban area
348	Displaced Biomass Emissions, tCO2e		
330	Displaced Soil Emissions		Assumes that redevelopment causes increase in impervious surface on redeveloped parcels
1,554	Credits from Avoided Biomass Emissions, tCO2e		
759	Credits from Avoided Soil Emissions, tCO2e		
2,314	Total Credits attributed to the project, tCO2e		
231	Registry Reversal Pool Account (10%), tCO2e		
2,082	**Total credits issued to the project, tCO2e**		
206	**Total credits issued to the project, tCO2e/acre**		

Year	Credits Issued This Year	Credits Issued
1	2,082	2,082
2	-	2,082
3	-	2,082
4	-	2,082
5	-	2,082

Tree Inventory

Reservation Woods
Primary and Secondary Plots



Reservation Woods (9.97 acres)

Plot Locations

50ft Plot Buffer
Inspection Type

Primary
Secondary

N

0 100 200 400
Feet

Aerial Imagery from Nearmap Inc. Spring 2022

ID	Stratum	Date	Crew	Size (ac)	% Tree	% Measured	Complete?
1	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
2	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
3	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
4	Wooded	8/19/2022	NP	0.1	90% - 95%	100	TRUE
5	Wooded	8/19/2022	NP	0.1	95% - 99%	100	TRUE
6	Wooded			0.1	Not Entered	100	FALSE
7	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
8	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
9	Wooded	8/19/2022	NP	0.1	95% - 99%	100	TRUE
10	Wooded	8/19/2022	NP	0.1	100%	100	TRUE
11	Wooded			0.1	Not Entered	100	FALSE
12	Wooded	8/19/2022	NP	0.1	95% - 99%	100	TRUE

Plot	Land Use	% of Plot
1	Forest	100
2	Forest	100
3	Forest	100
4	Forest	100
5	Forest	100
6		
7	Forest	100
8	Forest	100
9	Forest	100
11		
10	Forest	100
12	Forest	100

Plot	ID	Survey Date	Species	Land Use	DBH 1 (in)	DBH 1: Height (ft)	DBH 1: Measured?	Crown: Condition
1	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.8	4.5	TRUE	90% - 95%
1	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	22	4.5	TRUE	95% - 99%
1	3	8/19/2022	American elm (Ulmus americana)	Forest	5	4.5	TRUE	95% - 99%
1	4	8/19/2022	American elm (Ulmus americana)	Forest	9.6	4.5	TRUE	0%
1	5	8/19/2022	American elm (Ulmus americana)	Forest	9.2	4.5	TRUE	85% - 90%
1	6	8/19/2022	American elm (Ulmus americana)	Forest	6.9	4.5	TRUE	95% - 99%
1	7	8/19/2022	Black walnut (Juglans nigra)	Forest	15.1	4.5	TRUE	95% - 99%
1	8	8/19/2022	American basswood (Tilia americana)	Forest	12.6	4.5	TRUE	95% - 99%
1	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.5	4.5	TRUE	95% - 99%
1	10	8/19/2022	Sugar maple (Acer saccharum)	Forest	28.7	4.5	TRUE	90% - 95%
1	11	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.3	4.5	TRUE	95% - 99%
1	12	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.1	4.5	TRUE	95% - 99%
1	13	8/19/2022	Sugar maple (Acer saccharum)	Forest	12	4.5	TRUE	0%
1	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	19	4.5	TRUE	90% - 95%
2	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.5	4.5	TRUE	95% - 99%
2	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	7.1	4.5	TRUE	95% - 99%
2	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.1	4.5	TRUE	95% - 99%
2	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.8	4.5	TRUE	90% - 95%
2	5	8/19/2022	American elm (Ulmus americana)	Forest	10.2	4.5	TRUE	90% - 95%
2	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.4	4.5	TRUE	95% - 99%
2	7	8/19/2022	American elm (Ulmus americana)	Forest	11.6	4.5	TRUE	85% - 90%
2	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.7	4.5	TRUE	95% - 99%
2	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.8	4.5	TRUE	95% - 99%
2	10	8/19/2022	White mulberry (Morus alba)	Forest	5.8	4.5	TRUE	30% - 35%
2	11	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.1	4.5	TRUE	90% - 95%
2	12	8/19/2022	Sugar maple (Acer saccharum)	Forest	6	4.5	TRUE	95% - 99%
2	13	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	6.3	4.5	TRUE	90% - 95%
2	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.6	4.5	TRUE	95% - 99%
2	15	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.5	4.5	TRUE	95% - 99%
2	16	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.4	4.5	TRUE	90% - 95%
2	17	8/19/2022	American elm (Ulmus americana)	Forest	11.1	4.5	TRUE	45% - 50%
3	1	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.9	4.5	TRUE	95% - 99%
3	2	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.3	4.5	TRUE	95% - 99%
3	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	20.7	4.5	TRUE	95% - 99%
3	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	12.8	4.5	TRUE	95% - 99%
3	5	8/19/2022	Shagbark hickory (Carya ovata)	Forest	9.2	4.5	TRUE	95% - 99%
3	6	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.7	4.5	TRUE	95% - 99%
3	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	19.6	4.5	TRUE	95% - 99%
3	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	20.2	4.5	TRUE	95% - 99%
3	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	24.9	4.5	TRUE	90% - 95%
3	10	8/19/2022	American basswood (Tilia americana)	Forest	8.9	4.5	TRUE	95% - 99%
4	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.1	4.5	TRUE	95% - 99%
4	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.9	4.5	TRUE	70% - 75%
4	3	8/19/2022	American basswood (Tilia americana)	Forest	10.6	4.5	TRUE	85% - 90%
4	4	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	6	4.5	TRUE	85% - 90%
4	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	7.6	4.5	TRUE	85% - 90%
4	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	19.9	4.5	TRUE	70% - 75%
4	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.6	4.5	TRUE	70% - 75%
4	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.3	4.5	TRUE	70% - 75%
4	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.9	4.5	TRUE	70% - 75%
4	10	8/19/2022	Sugar maple (Acer saccharum)	Forest	18	4.5	TRUE	75% - 80%
4	11	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.1	4.5	TRUE	80% - 85%
4	12	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	90% - 95%
4	13	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.7	4.5	TRUE	90% - 95%
4	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	7.8	4.5	TRUE	95% - 99%
4	15	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.4	4.5	TRUE	80% - 85%
5	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.9	4.5	TRUE	90% - 95%
5	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.6	4.5	TRUE	90% - 95%
5	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.6	4.5	TRUE	95% - 99%
5	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	15.2	4.5	TRUE	90% - 95%
5	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	90% - 95%
5	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	90% - 95%
5	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.7	4.5	TRUE	90% - 95%
5	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.6	4.5	TRUE	85% - 90%
5	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.5	4.5	TRUE	85% - 90%
5	10	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	8	4.5	TRUE	80% - 85%
5	11	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	6.9	4.5	TRUE	90% - 95%
5	12	8/19/2022	Northern red oak (Quercus rubra)	Forest	34.9	4.5	TRUE	80% - 85%

5	13	8/19/2022	Sugar maple (Acer saccharum)	Forest	23.6	4.5	TRUE	60% - 65%
5	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	13.7	4.5	TRUE	90% - 95%
5	15	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.2	4.5	TRUE	80% - 85%
5	16	8/19/2022	Sugar maple (Acer saccharum)	Forest	9.2	4.5	TRUE	85% - 90%
5	17	8/19/2022	Sugar maple (Acer saccharum)	Forest	14	4.5	TRUE	0%
5	18	8/19/2022	Sugar maple (Acer saccharum)	Forest	23	4.5	TRUE	85% - 90%
7	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	7.5	4.5	TRUE	95% - 99%
7	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.3	4.5	TRUE	95% - 99%
7	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.5	4.5	TRUE	95% - 99%
7	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.6	4.5	TRUE	95% - 99%
7	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	95% - 99%
7	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	3.5	4.5	TRUE	95% - 99%
7	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	4.8	4.5	TRUE	95% - 99%
7	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.8	4.5	TRUE	95% - 99%
7	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	95% - 99%
7	10	8/19/2022	American basswood (Tilia americana)	Forest	11.9	4.5	TRUE	90% - 95%
7	11	8/19/2022	American basswood (Tilia americana)	Forest	24.8	4.5	TRUE	95% - 99%
7	12	8/19/2022	American basswood (Tilia americana)	Forest	5	4.5	TRUE	95% - 99%
7	13	8/19/2022	American elm (Ulmus americana)	Forest	14.7	4.5	TRUE	90% - 95%
7	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	14.3	4.5	TRUE	90% - 95%
7	15	8/19/2022	American elm (Ulmus americana)	Forest	8.4	4.5	TRUE	90% - 95%
7	16	8/19/2022	American elm (Ulmus americana)	Forest	23.1	4.5	TRUE	90% - 95%
8	1	8/19/2022	Sugar maple (Acer saccharum)	Forest	8.1	4.5	TRUE	95% - 99%
8	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.8	4.5	TRUE	95% - 99%
8	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	10.2	4.5	TRUE	95% - 99%
8	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	17.9	4.5	TRUE	90% - 95%
8	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	19.6	4.5	TRUE	90% - 95%
8	6	8/19/2022	White oak (Quercus alba)	Forest	27.5	4.5	TRUE	85% - 90%
8	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.7	4.5	TRUE	95% - 99%
8	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.3	4.5	TRUE	90% - 95%
8	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	13.1	4.5	TRUE	90% - 95%
8	10	8/19/2022	Sugar maple (Acer saccharum)	Forest	13.3	4.5	TRUE	90% - 95%
8	11	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.3	4.5	TRUE	90% - 95%
8	12	8/19/2022	Sugar maple (Acer saccharum)	Forest	11.4	4.5	TRUE	85% - 90%
8	13	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.1	4.5	TRUE	0%
8	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	8.5	4.5	TRUE	90% - 95%
9	1	8/19/2022	White oak (Quercus alba)	Forest	27.3	4.5	TRUE	5% - 10%
9	2	8/19/2022	American elm (Ulmus americana)	Forest	14.8	4.5	TRUE	10% - 15%
9	3	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.3	4.5	TRUE	1% - 5%
9	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	18.3	4.5	TRUE	5% - 10%
9	5	8/19/2022	White oak (Quercus alba)	Forest	23.4	4.5	TRUE	5% - 10%
9	6	8/19/2022	White oak (Quercus alba)	Forest	26	4.5	TRUE	5% - 10%
9	7	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.1	4.5	TRUE	1% - 5%
9	8	8/19/2022	White oak (Quercus alba)	Forest	20.9	4.5	TRUE	5% - 10%
9	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.2	4.5	TRUE	1% - 5%
10	1	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	6.1	4.5	TRUE	95% - 99%
10	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.3	4.5	TRUE	95% - 99%
10	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.5	4.5	TRUE	0%
10	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.4	4.5	TRUE	95% - 99%
10	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	9.4	4.5	TRUE	90% - 95%
10	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.3	4.5	TRUE	0%
10	7	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	7.4	4.5	TRUE	90% - 95%
10	8	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.5	4.5	TRUE	85% - 90%
10	9	8/19/2022	Sugar maple (Acer saccharum)	Forest	11.5	4.5	TRUE	90% - 95%
10	10	8/19/2022	Sugar maple (Acer saccharum)	Forest	24.2	4.5	TRUE	90% - 95%
10	11	8/19/2022	Sugar maple (Acer saccharum)	Forest	15.4	4.5	TRUE	90% - 95%
10	12	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.6	4.5	TRUE	95% - 99%
10	13	8/19/2022	Sugar maple (Acer saccharum)	Forest	20.3	4.5	TRUE	95% - 99%
10	14	8/19/2022	Sugar maple (Acer saccharum)	Forest	16.4	4.5	TRUE	90% - 95%
10	15	8/19/2022	Sugar maple (Acer saccharum)	Forest	10.5	4.5	TRUE	85% - 90%
10	16	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.6	4.5	TRUE	85% - 90%
10	17	8/19/2022	Black walnut (Juglans nigra)	Forest	5.7	4.5	TRUE	95% - 99%
10	18	8/19/2022	Sugar maple (Acer saccharum)	Forest	5.6	4.5	TRUE	90% - 95%
10	19	8/19/2022	Sugar maple (Acer saccharum)	Forest	5	4.5	TRUE	50% - 55%
12	1	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	6	4.5	TRUE	85% - 90%
12	2	8/19/2022	Sugar maple (Acer saccharum)	Forest	21.4	4.5	TRUE	90% - 95%
12	3	8/19/2022	Sugar maple (Acer saccharum)	Forest	25	4.5	TRUE	0%
12	4	8/19/2022	Sugar maple (Acer saccharum)	Forest	14.3	4.5	TRUE	90% - 95%
12	5	8/19/2022	Sugar maple (Acer saccharum)	Forest	17.4	4.5	TRUE	85% - 90%

12	6	8/19/2022	Sugar maple (Acer saccharum)	Forest	20.7	4.5	TRUE	90% - 95%
12	7	8/19/2022	Sugar maple (Acer saccharum)	Forest	15.7	4.5	TRUE	85% - 90%
12	8	8/19/2022	Sugar maple (Acer saccharum)	Forest	22.4	4.5	TRUE	85% - 90%
12	9	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.6	4.5	TRUE	90% - 95%
12	10	8/19/2022	Eastern hophornbeam (Ostrya virginiana)	Forest	5.2	4.5	TRUE	85% - 90%
12	11	8/19/2022	Sugar maple (Acer saccharum)	Forest	7.1	4.5	TRUE	90% - 95%
12	12	8/19/2022	Sugar maple (Acer saccharum)	Forest	6.5	4.5	TRUE	0%
12	13	8/19/2022	Black cherry (Prunus serotina)	Forest	5.5	4.5	TRUE	55% - 60%
12	14	8/19/2022	Northern red oak (Quercus rubra)	Forest	35.9	4.5	TRUE	60% - 65%

Carbon Biomass

Location: Yorkville, Kendall, Illinois, United States of America
Project: ReservationWoods, Series: ReservationWoods, Year: 2022
Generated: 8/24/2022

Stratum	Species	Trees		Carbon Storage	
		Number	SE	(metric ton)	SE
Wooded	Sugar maple	1,000	±134	443.24	±74.72
	Shagbark hickory	10	±10	1.03	±0.97
	Black walnut	20	±13	3.00	±2.59
	White mulberry	10	±10	0.29	±0.28
	Eastern hophornbeam	182	±34	7.12	±1.51
	Black cherry	10	±10	0.44	±0.42
	White oak	51	±38	85.09	±61.78
	Northern red oak	20	±13	73.61	±46.62
	American basswood	61	±29	25.37	±14.16
	American elm	111	±48	25.33	±13.27
	Total	**1,475**	**±97**	**664.52**	**±87.96**

Biomass tC/acre calculation: Davey Resource Group conducted a sample forest assessment adhering to the standards set in CFC Tree Preservation Protocol Section 11.1.B. The sample established 10 sample plots sized at 1/10th-acre. Within every plot, each live tree at least 5” in diameter at 4.5’ above the ground where the height above the ground is measured on the uphill side of the tree was inventoried. Species, diameter, and overall tree condition were recorded for each tree. Davey Resource Group utilized i-Tree Eco to input the sample plot data to determine the carbon storage.

Carbon quantification is based on the sample plots. The metric tons of Carbon is 664.52. The standard error is 87.96

Biomass tC/ac = (metric tons of carbon – standard error)/project area acres

(664.52 – 87.96)/10.0869 = 57.16 (cell B11 on attachment 11)

Tree Characteristics Chart(s)

Floral Survey of Henneberry Woods and Reservation Woods Forest Preserves

Prepared by:
Scott N. Kobal
For the Kendall County Forest Preserve District

November 2018

Contents

Introduction

During the 2018 growing season the Henneberry Woods Forest Preserve and the nearby Reservation Woods Forest Preserve were surveyed for their floristic components. The purpose of these surveys was to:

1) Document the plant species growing at the newly acquired Henneberry Woods Forest Preserve
2) Document and describe the various plant communities the Henneberry Woods Forest Preserve
3) Confirm the presence of rare flora species at Reservation Woods Forest Preserve that were located in a survey done in 1991
4) Collect specimens and voucher plant species not known from Kendall County (using the 2017 Flora of the Chicago Region) and deposit these specimens at the Morton Arboretum Herbarium
5) Identify exotic/invasive species threats in order make recommendations for management plans and activities, and
6) Make recommendations for increasing the native plant species diversity within the Henneberry and Reservation Woods Forest Preserves

HENNEBERRY WOODS

Site Location

Henneberry Woods Forest Preserve is located approximately four miles east of the town of Yorkville, south of Reservation Road and north of Route 126 (Figure 1). Henneberry Woods is located in the Grand Prairie Section of the Grand Prairie Division in Illinois. It is located just east of Reservation Woods Forest Preserve.

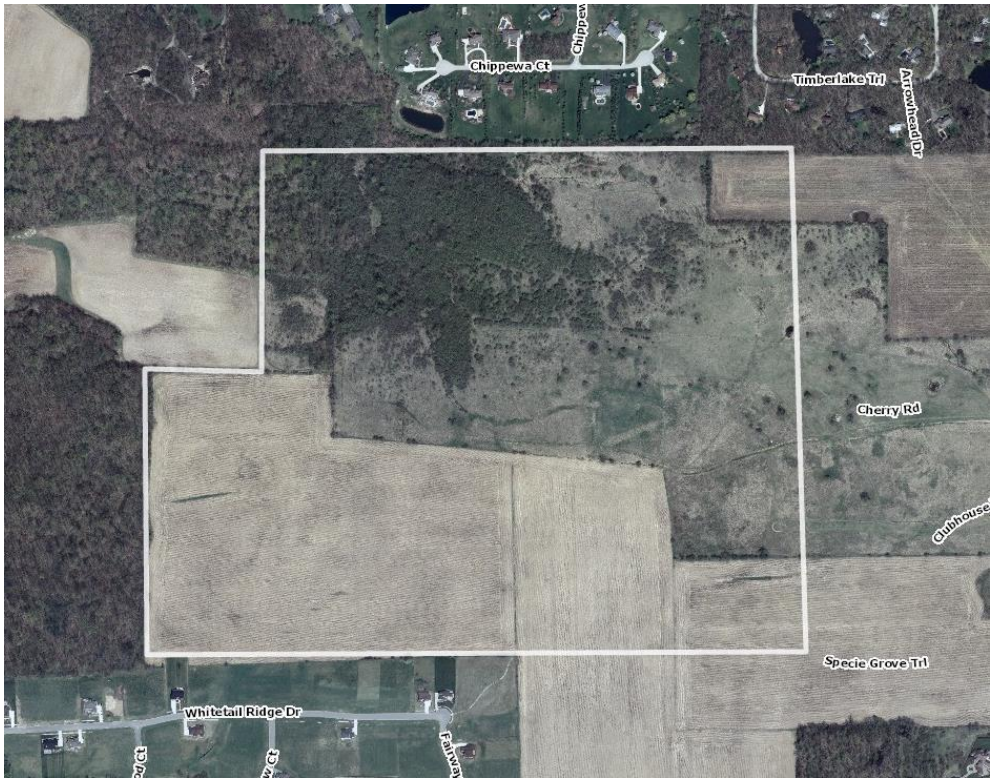


Figure 1: Location of Henneberry Woods Forest Preserve

Site Description

Henneberry Woods Forest Preserve contains rolling grassland, shrubland, immature upland forest, mesic upland forest, small wetland areas along drainages, agricultural land and prairie restoration. Soils for this preserve include the following:

193 B – Mayville silt loam, 0 to 2 percent slopes

224 C3 – Strawn silt loam 5 to 10 percent slopes, eroded

224 D2 – Strawn silt loam, 10 to 18 percent slopes eroded

356 A – Elpaso silt loam, 0 to 2 percent slopes

3107 A – Sawmill silty clay loam, 0 to 2 percent slopes, frequently flooded

Methods

Floral inventories were conducted from early May until late September (May 12, 20, June 1, July 7, 28, and September 9 and 29) during the 2018 growing season to ensure the observation and accurate identification of vascular plant species with different phenologies. Inventories were conducted by surveying the entire Henneberry Woods Forest Preserve and cataloging all vascular plants observed. It is estimated, that with due care, approximately 70-90% of the site's existing flora can be recorded in a given year. Ideally, inventories should be conducted over two to three growing seasons to lessen the potential effects of annual variation in species occurrences (Wilhelm 1991). Care was taken to note locations of rare species and those that are monitored by the Chicago Botanic Garden's Plants of Concern program. The locations of rare and potentially invasive species located in 2018 were shown to the Forest Preserve Staff. Voucher specimens of those species not previously recorded for Kendall County were secured and deposited at the herbarium of the Morton Arboretum in Lisle, Illinois.

Results

Table 1 provides a complete list of all vascular plant species that were observed at Henneberry Woods Forest Preserve during the 2018 growing season. A total of 300 species were encountered, of which 220 (73.3%) were native and 80 (26.7%) were non-native. Non-native (introduced, alien, exotic, adventive) species are those that have been introduced, either intentionally or accidentally, to the Chicago Region since the time of European settlement. Nomenclature for all plant species follows Wilhelm Rericha's Flora of the Chicago Region (2017). An explanation of the terms used on the flora lists is located in Appendix A.

The majority of the native flora (59.7%) were non-conservative species (those species having a coefficient of conservatism of 0-3). The mean coefficient of conservatism (native conservatism) was 3.5 and the Floristic Quality

Index (native FQI) was 51.9 for the entire site. The FQI is derived from an analysis of all native plant species in a community (Swink and Wilhelm 1994, Wilhelm and Masters 1994, Taft et. al 1997, Wilhelm and Rericha 2017). According to Swink and Wilhelm (1994) an area having a native conservatism of 4.5 or higher or a native FQI value of 45 or more almost certainly has natural area potential. Areas with FQI's greater than 50 are extremely rare and are of paramount importance, as they represent less than 0.5% of the land area in the Chicago Region. The 2018 floral inventory of Henneberry Woods Nature Preserve shows that the site has some remnant natural area quality based on the numerical analysis.

Plant Community Descriptions

Henneberry Woods Forest Preserve contained the following plant communities:

Prairie Restoration:

A small prairie restoration was planted in the far southwestern corner of the preserve recently (Figure 2). Most of the area was in the very early stages of restoration with many annual Eurasian weeds present such as foxtails (Seteria spp.), pigweeds (Amaranthus spp.), lamb's quarters (Chenopodium album), and old witch grass (Panicum capillare). Later in the growing season some prairie species were noted in this new restoration such as; side-oats grama (Bouteloua curtipendula), common partridge pea (Chamaecrista fasiculata), false sunflower (Heliopsis helianthoides), black-eyed Susan (Rudbeckia hirta), sweet black-eyed Susan (R. subtomentosa), and smooth blue aster (Symphyotrichum leave).

Figure 2: Prairie restoration area at Henneberry Woods Forest Preserve (upper photos taken 6/1/18 – lower photos taken 9/29/18).

Grassy Fields:

This community is located in the eastern and northeastern portions of the preserve (Figure 3). These fields are dominated by cool season Eurasian grasses such as Hungarian brome (Bromus inermis), Kentucky blue grass (Poa pratensis), and tall fescue (Schedonorus aruninaceus) and were adjacent to the agricultural fields at the far southern end of the preserve. Other herbaceous plant species present in these fields included, common milkweed (Ascelpias syriaca), wild lettuce (Lactuca canadensis), Canada goldenrod (Solidago canadensis), and late boneset (Eupatorium serotinum). There were a number of trails mowed through these fields and species such as white clover (T. repens), path rush (Juncus tenuis), smooth crabgrass (Digitaria ischaemum) and red-stalked plantain (Plantago rugelii) were abundant in these trails. Trees and shrubs were starting to invade these fields such as red cedar (Juniperus virginiana), Himalayan autumn olive (Eleangus umbellata parviflora), prickly ash (Zanthoxylum americanum) and honeysuckles (Lonicera spp.).

Figure 3: Grassy fields at Henneberry Woods Forest Preserve (photos on right showing mowed trails)

Agricultural Fields:

The agricultural fields were located in the extreme northeastern corner and in the southeastern portion (Figure 4). These fields were planted to corn (Zea mays) in 2018.

Figure 4. Agricultural field (corn) adjacent to grassy field at Henneberry Woods Forest Preserve.

Shrubby Fields:

These areas were located adjacent to the grassy fields and were dominated by downy hawthorn (Crataegus mollis) and the dotted hawthorn (C. punctata) (Figure 5). Other woody plant species in this community included poison ivy (Toxicodendron radicans), black raspberry (Rubus occidentalis) and Missouri wild gooseberry (Ribes missouriense).

Figure 5. Shrubby fields at Hennberry Woods Forest Preserve.

Immature Woodland:

This community was located in the northeastern portion of the preserve, adjacent to the shrubby fields and mesic upland woodland (Figure 5) and were somewhat of a transition between those two communities. This area contained wild black cherry (Prunus serotina), boxelder (Acer negundo), American elm (Ulmus americana), and black walnut (Juglans nigra). There was a large amount of brush in the understory including Amur honeysuckle (Lonicera maackii), black raspberry, Missouri wild gooseberry and multiflora rose. Many of these areas were very overgrown which made access to them difficult. This community did contain some spring ephemerals such as false mermaid (Floerkea proserpinacoides), false rue anemone (Enemion biternatum), toothwort (Dentaria laciniata) and woodland phlox (Phlox divaricata) as well as weedier species such as garlic mustard (Alliaria petiolata), clearweed (Pilea pumila), white snakeroot (Ageratina atlissima), stickseed (Hackelia virginiana) jumpseed (Antenoron virginianum) clustered black snakeroot (Sanicula odorata), and white avens (Geum canadense). There were also some trails through this community where the invasive stilt grass (Microstegium vimineum) was located. Herbicide control of this grass was undertaken by Forest Preserve Staff in September and October 2018.

Figure 5: Immature woodland at Henneberry Woods Forest Preserve (lower photo showing trail)

Mesic Woodland:

This community was located in the far northeastern portion of the preserve. The area that it covered was quite small – covering only perhaps only an acre (Figure 6). Trees in this area included sugar maple (Acer saccharum), American linden (Tilia americana), white oak (Quercus alba), and red oak (Q. rubra). The ground flora contained species such as reflexed wild ginger (Asarum canadnese reflexum), wild geranium (Geranium maculatum), common wood reed (Cinna arundinacea), grass sedge (Carex jamesii), false rue anemone, May apple (Podophyllum peltatum), and wild leek (Allium tricoccum). Rarer species noted on this community included the hairy wood stiff sedge (Carex hitchcockiana), few-fruited gray sedge (C. oligicarpa), wood bluegrass (Poa sylvestris) and great white lettuce (Prenanthes crepidinea). There was the possible sighting of the fire pink (Silene virginica) near this area, but the plants remained vegetative throughout the 2018 growing season so identification was not confirmed.

Figure 6: Mesic woodland at Henneberry Woods Forest Preserve

Wetland Areas:

This community was located primarily in the northcentral section of the preserve along small drainages where woody vegetation had not totally shaded out the ground cover (Figure 7). It contained species such as common boneset (Eupatorium perfoliatum), great blue lobelia (Lobelia siphilitica), common water horehound (Lycopus americanus), dark green rush (Scirpus atrovirens) and various sedges such as the bristly cattail sedge (Carex frankii), porcupine sedge (C. hystericina), wedge-fruited oval sedge (C. suberecta), and the brown fox sedge (C. vulpinoidea).

Figure 7: Small wetland areas located at Henneberry Woods Forest Preserve

Wildlife Species Encountered

Wildlife species encountered during the floral inventories were recorded when accurate identification could be determined. This is not a complete list of wildlife species on the site since floral inventories were not conducted at peak wildlife activity times (i.e. early morning hours) and the focus of the surveys was on the vegetation.

Insects:

Monarch Butterfly	(Danaus plexippus)
Tiger Swallowtail	(Papilio polyxenes)
Giant Swallowtail	(Papilio cresphontes)

Amphibians:

American Toad	(Bufo americanus)
Green Frog	(Rana clamitans melanota)

Birds:

Mourning dove	(Zenaida macroura)
House wren	(Troglodytes aedon)
Blue jay	(Cyanocitta cristata)
Gray catbird	(Dumetella carolinensis)
Black-capped Chickadee	(Poecile atricapillus)
American Robin	(Turdus migratorius)
Eastern Wood Pewee	(Contopus virens)
Red-bellied woodpecker	(Melanerpes carolinus)
Pileated Woodpecker	(Hylatomus pileatus)
Common yellowthroat	(Geothlypis trichas)
Northern cardinal	(Cardinalis cardinalis)
Field sparrow	(Spizella pusilla)
Red-winged blackbird	(Agelaius phoeniceus)
Great crested flycatcher	(Myiarchus crinitus)
American crow	(Corvus brachyrhynchos)
Rufous-sided towhee	(Pipilo erythrophthalmus)
Rose-breasted Grosbeak	(Pheucticus ludovicianus)
Eastern Meadowlark	(Sturnella magna)
Dickcissel	(Spiza americana)
Henslow's Sparrow	(Ammodramus henslowii)
Red-tailed hawk	(Buteo jamaicensis)

Mammals:

Fox squirrel	(Sciurus niger)
Eastern Cottontail	(Sylvilagus floridanus)
White-tailed deer	(Odocoileus virginianus)

RESERVATION WOODS

Previous Inventories

The entire Reservation Woods parcel was surveyed during the 1991 growing season. Although the Kendall County Forest Preserve District does not own all of the wooded area at Reservation Woods (two parcels totaling 26.3 acres are owned by the District – approximately 1/3 of the total acreage of the woodland) all of the wooded area was surveyed in 1991. The flora list from 1991 was run with the new nomenclature and C values so the metrics

are somewhat different than on the list that I was provided with. At that time a total of 142 plant species were encountered, of which 138 (97.2%) were native and 4 (2.8%) were adventive. The majority of the native flora (70.4%) were conservative species (C values of 4 or higher). The mean coefficient of conservatism was 4.7 and the native FQI was 55.2 for the entire site (Table 2).

2018 Inventory

During the 2018 growing season I searched the entire woodland on June 1 and September 9 for some of the rare floral species that were noted in the 1991 inventory. Since I was traversing the woodland I did keep a list of the species that I saw. This is not a complete inventory list but does provide some additional information on the site. In 2018 a total of 124 plant species were encountered, of which 115 (92.7%) were native and nine (7.3%) were adventive. The majority of the flora (65.3%) were conservative species. The mean coefficient of conservatism was 4.5 and the native FQI was 48.3 for the entire site (Table 3). This is very similar to the 1991 inventory in terms of the number of plant species and floristic quality analysis. A total of 81 species (57%) that were seen during the 1991 survey were also observed in 2018. Also, a total of 32 plant species were observed in 2018 that were not recorded on the 1991 list.

Changes in Floristic Composition from 1991 to 2018:

While the number of native species and the floristic quality of the Reservation Woods Forest Preserve have been were very similar from the 1991 and 2018 inventories there have been changes in the species composition on the site.

This mesic woodland is suffering from a very heavy infestation of sugar maple and American linden (Figure 8). There are few large trees in this woodland and a flush of young, straight trees that have produced heavy shade have obviously changed the structure of this woodland since it was last surveyed in 1991. Despite some of these problems, there were few invasive species in this woodland and their numbers were rather low.

Figure 8. Areas of heavy sugar maple and American linden infestation at Reservation Woods – 6/1/18

Many of the areas where maples were severely shading the ground were virtually devoid of ground cover during the September 9 survey (Figure 9).

Figure 9. Area at Reservation Woods with no ground cover due to maple shading (9/9/18)

In addition to shading, there is also erosion going along the ravines in this woodland due to the lack of ground cover (Figure 10).

Figure 10. Erosion along ravines at Reservation Woods Forest Preserve

During the 1991 survey a number of conservative plants species were noted that were not observed in the 2018 survey. These included species such as the Virginia snakeroot (Endodeca serpentaria), blue-eyed Mary (Collinsia verna), butternut (Juglans cinerea), Indian pipe (Monotropa uniflora), red mulberry (Morus rubra), ginseng (Panax quinquefolius), showy orchis (Gaearis spectabilis), declined trillium (Trillium flexipes), green wood sedge (Carex copulata) and the slender wood sedge (C. gracilescens). Obviously this woodland has changed since 1991.

During the 2018 survey the heart-leaved skullcap (Scutellaria ovata) was relocated. Also, some conservative species such as the hairy gray sedge, few-fruited gray sedge, Wood's stiff sedge (Carex woodii), and pawpaw (Asimina triloba) were noted that were not observed in 1991.

Discussion

Overall this is a very rich site that contains a number of species that are rare in Kendall County and in the Chicago Region. The following species that exist (or were seen previously) should be monitored through the Chicago Botanic Garden's Plants of Concern Program (all of these species are currently monitored to some extent under the program):

Asimina triloba (Pawpaw) – this species was not listed on the 1991 survey but was noted during the 2018 survey. This is a characteristic plant of mesic to wet woodlands. A large colony of this tree was noted at the nearby Henneberry Woods Forest Preserve.

Collinsia verna (Blue-eyed Mary) – this species was not seen during the 2018 survey. It is now rare in the region usually occurring in rich mesic woods. Wilhelm and Rericha (2017) note that fire suppression, excessive deer browse, deep shade and non-native plants have contributed to the ecological demise of the plant community in which this plant once commonly occurred. Some additional searches for this species should be performed to see if it still exists on the site.

Carex copulata (Green Wood Sedge) – this species was not seen during the 2018 survey. This is a sedge of rich mesic woodlands and forested fens. This species was listed as Carex laxiculmis on the 1991 survey list.

Carex gracilescens (Slender Wood Sedge) – this species was not seen during the 2018 survey. This plant is not reported for Kendall County in new Flora of the Chicago Region (2017). This sedge may have been confused with the similar Carex woodii (Wood's Stiff Sedge) at the time of the 1991 survey, which was noted in the 2018 survey.

Carex hitchcockiana (Hairy Gray Sedge) – this species was not listed on the 1991 survey but was noted during the 2018 survey. It is a conservative sedge to mesic woodlands and was also noted at the nearby Henneberry Woods Forest Preserve.

Carex oligicarpa (Few-fruited Gray Sedge) – this species was not listed on the 1991 survey but was noted during the 2018 survey. This is an uncommon sedge of rich mesic woodlands that was also noted at the nearby Henneberry Woods Forest Preserve.

Endodeca serpentaria (Virginia Snakeroot) – this rare plant was not seen on the site in 2018. This plant usually grows in mesic to dry-mesic open woodlands and savannas. This species is the host plant for the pipevine swallowtail (Battus philenor).

Galearis spectabilis (Showy Orchis) – this rare species of open mesic woodlands was not seen during the 2018 survey.

Juglans cinerea (Butternut) – this species was not seen during the 2018 survey. This species has become rare in the region due to the introduced butternut canker disease and dewatering of the ambient uplands from the effects of dense shade. Trees present in 1991 could have died by the time the 2018 survey was performed.

Monotropa uniflora (Indian Pipe) – this plant was not seen during the 2018 survey. It is usually found in deep humus, in wet to dry-mesic woodlands and savannas. This species is cyclic and can be found in certain years and then absent in others.

Morus rubra (Red Mulberry) - this species was not seen during the 2018 survey. It has become a rare plant in the region, occurring in rich mesic woodlands and seeps along rivers and streams.

Panax quinquefolius (Ginseng) – - this species was not seen during the 2018 survey. It is a rare species of rich mesic woodlands, usually on north-facing slopes. The slopes in this woodland were examined carefully for this species but it was not observed. Due to its popularity as a medicinal plant the plants may have been collected since the 1991 survey.

Scutellaria ovata (Heart-leaved Skullcap) – this species was observed in the 1991 survey as well as the 2018 survey. It is a rare species that occurs in rich wet-mesic to mesic woodlands.

Trillium flexipes (Declined Trillium) – this species was not seen during the 2018 survey. Wilhelm and Rericha (2017) note that this species in now uncommon and extirpated from many stations where it once was frequent, occurring in rich wet to mesic woodlands.

Management Recommendations

Management recommendations for each of the plant communities that are found at the Henneberry Woods Forest Preserve are as follows:

Prairie Restorations

This community has been planted within the last year so it is still in the early stages of restoration. Management at this point should include mowing to keep weeds down and allow the planted prairie species to express themselves and prescribed fire if possible. Care should be taken as this restoration matures to control perennial weeds if they become established – when control is easier and more effective. Moving seeds from existing plants around and supplementing with additional species over time will help this community to mature.

Grassy Fields

This community currently is composed of predominantly non-native species with the largest occurrence in the southeastern portion of the preserve. Although some areas of this community are still rather open and grassy, as mentioned some sections are starting to fill in with trees and shrubs. These field should be maintained in this open grassy nature since it appears that providing habitat for grassland bird species is a management goal. These areas should be burned periodically to keep the shrub dominance from expanding. Scattered woody plants could be herbicided (species such as autumn olive should be controlled with herbicide (basal barked) as burning will not sufficiently control it) in addition to burning to help control them, particularly larger individuals. Small grouping of native woody species could be left near the edges. Also herbicide noxious herbaceous species such as wild parsnip (Pastinaca sativa), field thistle (Cirsium arvense), and common burdock (Arctium minus) to prevent their spread. Also, trying to reduce the amount of unauthorized mowing would be beneficial in helping to reduce fragmenting the habitat, stop providing lanes for predators, and reducing weed introductions.

Shrubby Fields

This community is composed of a mix of native and non-native woody plants. Noxious woody species such as multiflora rose, Amur honeysuckle and Japanese barberry (Berberis thunbergii) should be removed or reduced in dominance. This community, as with the grassy fields, also appears to have the goal of providing habitat for shrubland bird species. Substituting native shrub species for those removed as well as introducing prescribed fire would benefit this community.

Immature Woodland

This community is similar to the shrubby fields but has more young tree associated with it. The management of this area would be very similar in that it would involve introducing prescribed fire and removal (or thinning) of non-native woody plants. There were some conservative woodland species observed in this unit and increasing the amount of sunlight available would be beneficial. Some areas of this unit are very overgrown with native and non-native woody plants (Figure 11). Re-distribution of seed from more quality areas (particularly grasses and sedges) will help increase the floral diversity of the area and also provide more fuel for prescribed fires. Burning opportunities will probably be somewhat limited in this community but with the proper ground flora component they will likely be more successful. As mentioned earlier, control of the invasive stilt grass is a priority in this community – before any clearing or burning would take place.

Figure 11. Area in immature woodland overgrown with native and non-native woody plant species.

Wetland Areas

The main management concerns in this community are to introduce prescribed fire to keep the areas open and controlling invasive woody and herbaceous species that occur within and along the edges.

Mesic Woodland

This community should be managed very similarly to the immature woodland areas in introducing prescribed fire, removal of non-native woody plant species and thinning of abundant native trees and shrubs that are shading out the ground flora. Efforts should also be made to stop the mowing of trails in this area as this introduces weed species and harms the native vegetation. One of the scarcer species noted in this area, the wood bluegrass, was observed along the edges of the trails.

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Appendix A.

The following inventory, follows the nomenclature given in Wilhelm and Rericha's *Flora of The Chicago Region* – 2017.

Acronym – This is the plant species' 6-letter database acronym, which is derived from the species' scientific name.

Native? – This denotes if a plant species is native or non-native. Native taxa are those species believed to have been present in the Chicago region prior to settlement. Non-natives (i.e. exotic, adventives, alien, etc.) are species that have entered the region since settlement and are therefore not integral to any pre-settlement community.

C – This is the plant species' coefficient of conservatism (C value). The inventory assessment method is based up a fundamental character of the Chicago region flora itself. It has long been recognized that plants display varying degrees of tolerance to disturbance, as well as varying degrees of fidelity to specific habitat integrity. This concept of species "conservatism" is the basis for the assessment method. The floristic quality of an area is reflected in its inhabitancy by conservative plant species. Each native species is given a C value ranging from 0 to 10 with 0 being the most weedy (or non-conservative), and 10 being the most conservative.

W – This is the wetness coefficient. Each native and adventive plant species is given a wetness coefficient (W) ranging from –5 to 5 with –5 being the wettest and 5 being the driest. The mean wetness is expressed on the flora list for each site.

Physiognomy – This is the physiognomy or growth from of the plant species. The metrics portion gives the percentage of the total flora list belonging to each growth form.

Scientific Name - This is the plant species' Latin name.

Common Name - This is the plant species' common name.

Family – This is the Family that the plant species belongs to.

Duration – this is the life cycle of plant species (i.e. annual, biennial or perennial). The metrics portion gives the percentage of the total flora list belonging to each life cycle (total and native).

The table in the upper right-hand corner provides an analysis of the site's quality. It first shows the total number of native plants species present (**# Native Species**), and (**Total # Species**), which is the total number of plant species present (native + adventive).

The **Native Conservatism** or mean coefficient of conservatism (C) is the average of the coefficients of conservatism of all native plant species represented in the inventory. **Total Conservatism** is the average of all of the plant species' (native + non-native) coefficients in the inventory. Remnant landscapes have mean C values of 4.5 or higher.

The **Native Index** or Floristic Quality Index (FQI) is a mathematical formula that provides an ecological rating for natural lands in which the Native Conservatism for all of native plant species present is multiplied by the square root of the number of native species. **Total Index** is simply the same formula including the adventive species. The vast majority of land in the region registers Native Index values less than 20 and essentially has no significance from a natural areas perspective. Areas with Native Index values higher than 35 possess sufficient conservatism and richness to be of profound importance from a regional perspective. Areas registering in the 50's and higher are extremely rare and of paramount importance; they represent less than 0.5% of the land in the Chicago region.

Species Wetness value indicates the mean wetness coefficient for all species present in the inventory as well native wetness for the native plant species.

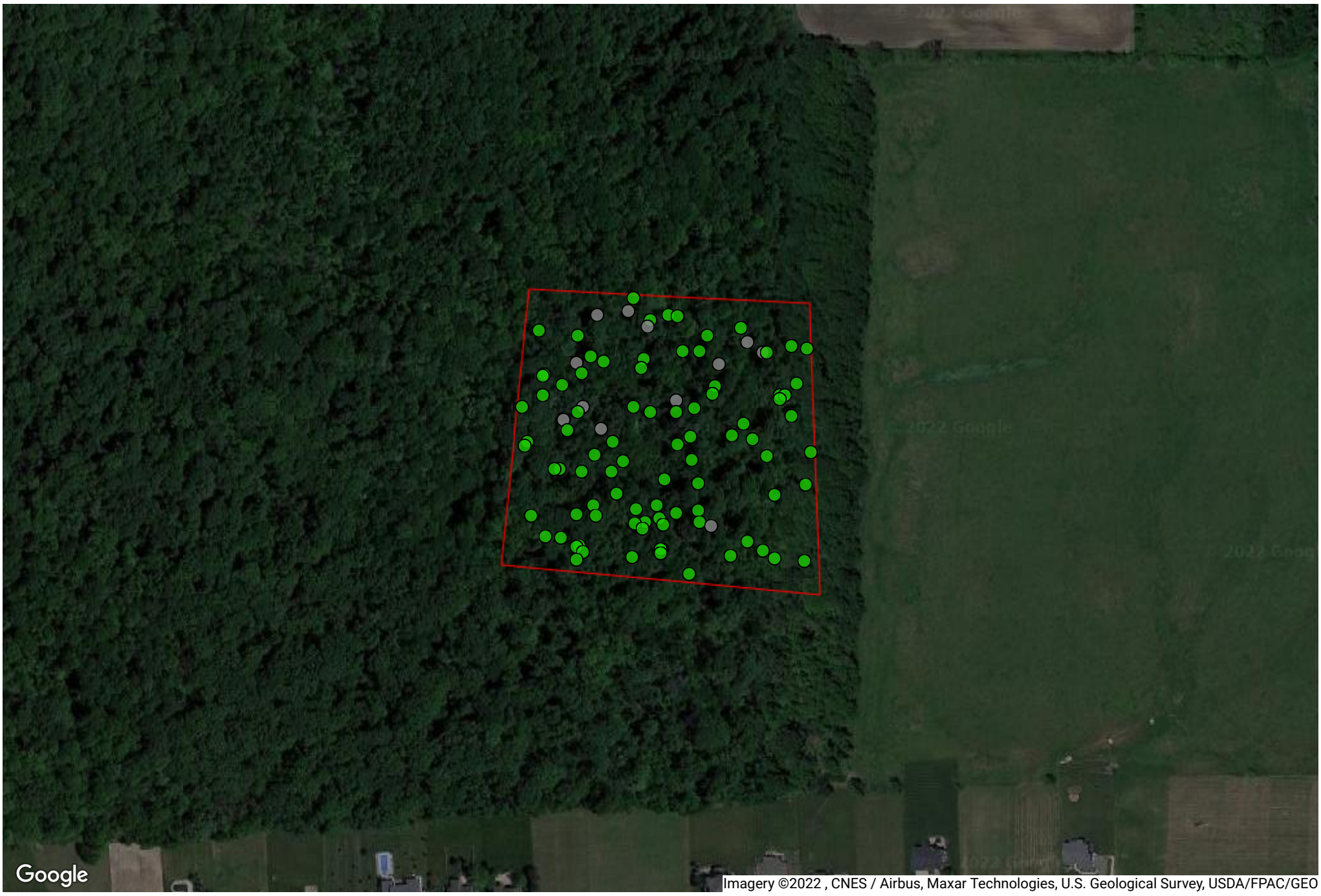
% C value refers to the percentage of each native plant species in each of the following values: 0, 1-3, 4-6 and 7-10. C values of 4 or greater are considered conservative plants in the inventory. Eighty-four percent of our native plants in the Chicago region have been given a C value of 4 or higher. These conservative plants accommodate a wide array of specialized plant community contexts. Sixteen percent of the native flora have C value of 3 or less and are shared by many plant communities. When an area is degraded to a point that the habitat context is changed, most of the first plants lost will be from the high end of the conservatism spectrum.

iTree Canopy Report

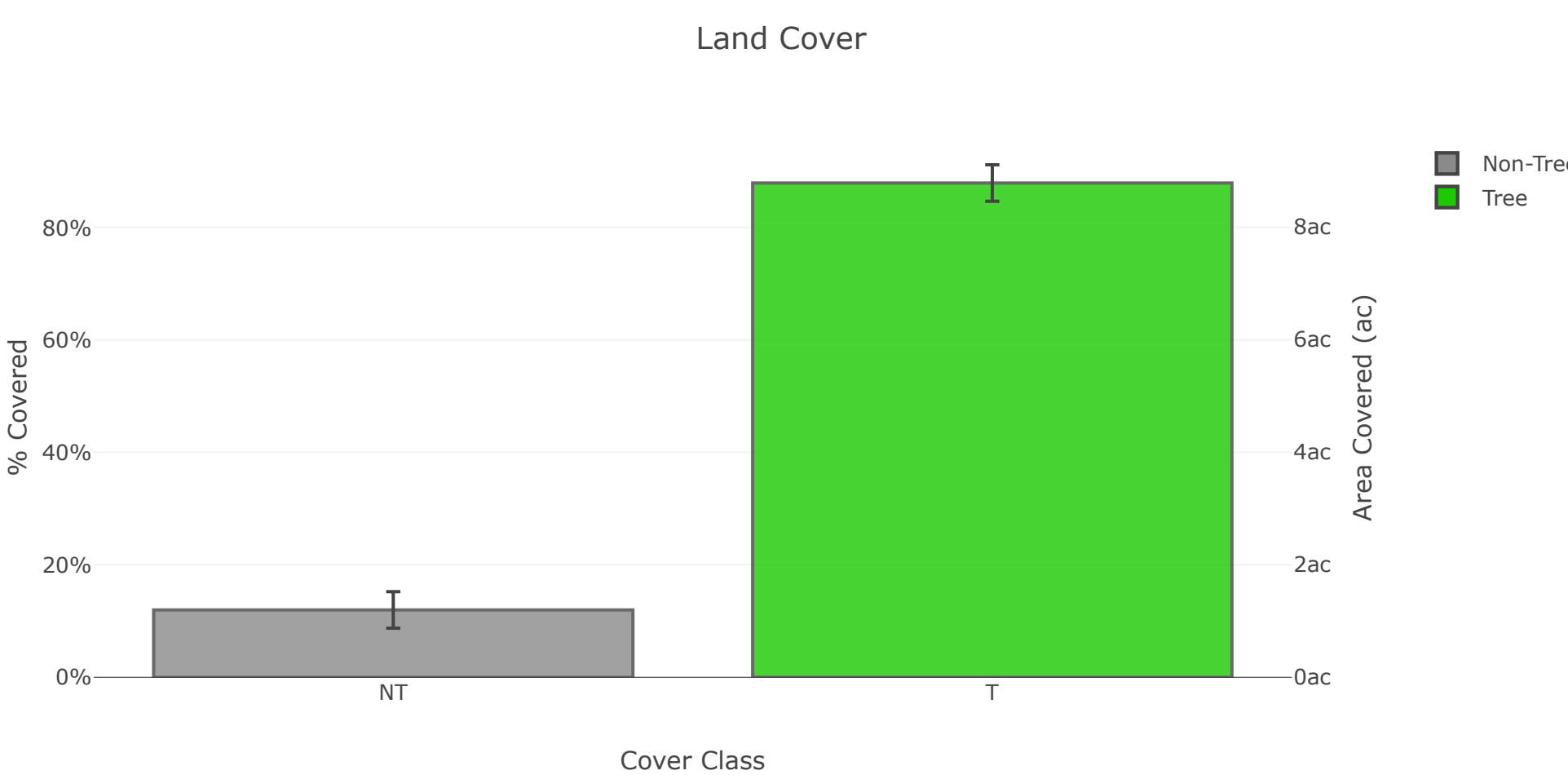
i-Tree Canopy

Cover Assessment and Tree Benefits Report

Estimated using random sampling statistics on 8/25/2022



Land Cover



Abbr.	Cover Class	Description	Points	% Cover ± SE	Area (ac) ± SE
NT	Non-Tree	All other surfaces	12	12.00 ± 3.25	1.20 ± 0.32
T	Tree	Tree, non-shrub	88	88.00 ± 3.25	8.78 ± 0.32
Total			**100**	**100.00**	**9.98**

Tree Benefit Estimates: Carbon (English units)

Description	Carbon (T)	±SE	CO_2 Equiv. (T)	±SE	Value (USD)	±SE
Sequestered annually in trees	11.09	±0.41	40.65	±1.50	$1,891	±70
Stored in trees (Note: this benefit is not an annual rate)	301.06	±11.12	1,103.88	±40.76	$51,346	±1,896

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Amount sequestered is based on 1.262 T of Carbon, or 4.629 T of CO_2, per ac/yr and rounded. Amount stored is based on 34.281 T of Carbon, or 125.697 T of CO_2, per ac and rounded. Value (USD) is based on $170.55/T of Carbon, or $46.51/T of CO_2 and rounded. (English units: T = tons (2,000 pounds), ac = acres)

Tree Benefit Estimates: Air Pollution (English units)

Abbr.	Description	Amount (lb)	±SE	Value (USD)	±SE
CO	Carbon Monoxide removed annually	7.86	±0.29	$2	±0
NO2	Nitrogen Dioxide removed annually	120.83	±4.46	$7	±0
O3	Ozone removed annually	335.75	±12.40	$77	±3
SO2	Sulfur Dioxide removed annually	13.51	±0.50	$0	±0
PM2.5	Particulate Matter less than 2.5 microns removed annually	15.87	±0.59	$156	±6
PM10*	Particulate Matter greater than 2.5 microns and less than 10 microns removed annually	93.57	±3.46	$135	±5
Total		**587.40**	**±21.69**	**$377**	**±14**

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Air Pollution Estimates are based on these values in lb/ac/yr @ $/lb/yr and rounded:
CO 0.895 @ $0.21 | NO2 13.759 @ $0.06 | O3 38.232 @ $0.23 | SO2 1.538 @ $0.02 | PM2.5 1.807 @ $9.81 | PM10* 10.654 @ $1.45 (English units: lb = pounds, ac = acres)

Tree Benefit Estimates: Hydrological (English units)

Abbr.	Benefit	Amount (Kgal)	±SE	Value (USD)	±SE
AVRO	Avoided Runoff	37.09	±1.37	$331	±12
E	Evaporation	476.66	±17.60	N/A	N/A
I	Interception	476.66	±17.60	N/A	N/A
T	Transpiration	1,051.23	±38.82	N/A	N/A
PE	Potential Evaporation	4,789.90	±176.88	N/A	N/A
PET	Potential Evapotranspiration	3,248.60	±119.96	N/A	N/A

Currency is in USD and rounded. Standard errors of removal and benefit amounts are based on standard errors of sampled and classified points. Hydrological Estimates are based on these values in Kgal/ac/yr @ $/Kgal/yr and rounded:
AVRO 4.223 @ $8.94 | E 54.277 @ N/A | I 54.277 @ N/A | T 119.702 @ N/A | PE 545.419 @ N/A | PET 369.913 @ N/A (English units: Kgal = thousands of gallons, ac = acres)

About i-Tree Canopy

The concept and prototype of this program were developed by David J. Nowak, Jeffery T. Walton, and Eric J. Greenfield (USDA Forest Service). The current version of this program was developed and adapted to i-Tree by David Ellingsworth, Mike Binkley, and Scott Maco (The Davey Tree Expert Company)

Limitations of i-Tree Canopy

The accuracy of the analysis depends upon the ability of the user to correctly classify each point into its correct class. As the number of points increase, the precision of the estimate will increase as the standard error of the estimate will decrease. If too few points are classified, the standard error will be too high to have any real certainty of the estimate.

Additional support provided by:

Use of this tool indicates acceptance of the EULA.

Cobenefit Calculator

Light yellow background denotes an input cell ->

Directions
1) Use i-Tree Canopy, or another tool, to estimate the amount of deciduous and coniferous tree cover area (acres) (Cell C20 and D20).
2) Use i-Tree Canopy, or another tool, to estimate the amount of non-tree cover area (acres) (Cell F20) in the project area.
3) In Cell G20 the total area of the project is calculated (acres). Prompt i-Tree Canopy to provide an estimate of the project area by clicking on the gear icon next to the upper right portion of the image and selecting ”Report By Area.”
4) Total Project Area, cell G17 should equal 100%.

Table 1. Tree Cover

	Deciduous Tree Cover	Coniferous Tree Cover	Total Tree Cover	Non-Tree	Total Project Area
Percent (%)	88%	0%	88%	12%	100%
Area (sq miles)	0.014	0.000	0.014	0.002	0.02
Area (m2)	36,017	0	36,017	4,856	40,873
Area (acres)	8.9	0.00	8.90	1.20	10.10

Using the information you provide on tree canopy cover, the tool provides estimates of co-benefits in Resource Units and $ per year.

Table 2. Co-Benefits per year with current tree canopy cover.

Ecosystem Services	Resource Units Totals	Total $
Rain Interception (m3/yr)	2,407.5	$17,237.56
Air Quality (t/yr)		
O3	0.0459	$69.60
NOx	0.0077	$11.61
PM10	0.0235	$30.28
Net VOCs	0.0236	$40.22
Air Quality Total	0.1008	$151.72
Energy (kWh/yr & kBtu/yr)		
Cooling - Elec.	18,952	$1,438.45
Heating - Nat. Gas	354,369	$3,449.70
Energy Total ($/yr)		$4,888.15
Grand Total ($/yr)		$22,277.43

Social Impacts

City Forest Carbon Project
Social Impacts

UN Sustainable Development Goals

The 17 United Nations Sustainable Development Goals (SDGs) are an urgent call for action and global partnership among all countries, representing key benchmarks for creating a better world and environment for everyone. Well-designed and managed urban forests make significant contributions to the environmental sustainability, economic viability and livability of cities. They help mitigate climate change and natural disasters, reduce energy costs, poverty and malnutrition, and provide ecosystem services and public benefits. See more details in the CFC Carbon Project Social Impact Reference Guide.

Instructions

This template sets out all relevant SDGs and lists various urban forest project activities that fall within each SDG. Evaluate the SDGs to determine how your carbon project provides social impacts that may contribute towards achievement of the global goals. Check the box(es) that contain one of your project activities and describe in no fewer than two sentences how your project activities align with the corresponding SDG. On page 12, select the icon for three to five of the most relevant SDGs to your project and provide any additional information.

SDG 3 - Good Health and Well Being

Goal: Ensure healthy lives and promote well-being for all at all ages.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☐ If planting trees, select trees for reduced pollen counts and irritant production
- ☒ Plant or protect trees to create shade, provide UV exposure protection, reduce extreme heat negative effects, and/or reduce temperatures to relieve urban heat effects
- ☒ Design project to buffer sounds, optimize biodiversity, or create nature experiences
- ☐ Locate project near vulnerable populations, such as children or elderly
- ☐ Locate project near high volume roads to screen pollutants
- ☒ Locate project near people to encourage recreation, provide new parks or green space, or otherwise promote an active lifestyle
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☒ Reduce stormwater runoff or improve infiltration rates
- ☐ Design project to reduce human exposure to specific pollutants or toxins
- ☒ Other

This project is protecting trees within a remnant forested area that has retained a high-quality native plant community based on floristic quality studies within 10.0869 +/- acres at Reservation Woods – Henneberry Forest Preserve.

Within the acquisition area, ephemeral streams run through a bluff-ravine system that confluence and contribute to the headwaters of Morgan Creek in Kendall County, Illinois.

Vegetation within the acquisition area retains and dissipates the force of storm water entering into drainage channels. This, in turn, reduces impacts from storm water runoff, and supports infiltration of storm water contributing to the County's ground water table.

These newly acquired 10.0869-acres are conterminous with 2-existing Reservation Woods parcels totaling 25+/- acres. The Reservation Woods acquisition area remains a high-priority for the District's land acquisition program due to the remnant assemblage of native flora, with the most recent study completed in 2018 (Kobal - 48.3 FQI - 115 native species).

The District is continuing efforts to connect the Reservation Woods parcels to the 248-acre Henneberry Woods Forest Preserve to form a contiguous protected area.

Establishing connectivity will optimize biodiversity, enhance nature experiences, and encourage recreation by providing trails connecting the preserve's diverse habitat areas.

SDG 6 - Clean Water and Sanitation

Goal: Ensure availability and sustainable management of water and sanitation for all

Examples of project activities include, but are not limited to:

- ☐ Research and assess environmental injustices related to water in project area
- ☐ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes near water
- ☒ Protect or plant trees to improve historically or culturally important sites related to water that have been degraded and/or neglected
- ☒ Reduce stormwater by planting or protecting trees
- ☐ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☒ Prevent soil erosion by protect steep slopes
- ☒ Improve infiltration rates
- ☐ Improve, mitigate, or remediate toxic landscapes and human exposure to risk
- ☐ Drought resistance, such as selecting appropriate water-efficient trees for project climate zone
- ☐ Other

The Reservation Woods acquisition area consists of remnant woodland parcels located between the historic "Big Slough" Morgan Creek drainage area and the Waish-Kee-Shaw Indian Reservation lands established under the 1830 Treaty of Prairie du Chien (excerpt below).

ARTICLE IV.

There shall be granted by the United States, to each of the following persons, (being descendants from Indians,) the following tracts of land, viz: To Claude Laframboise, one section of land on the Riviere aux Pleins, adjoining the line of the purchase of 1816.

To Waish-kee-Shaw, a Potawatamie woman, wife of David Laughton, and to her child, one and a half sections at the old village of Nay-ou-Say, at or near the source of the Riviere aux Sables of the Illinois.

This project protects 10.0869-acres of deciduous forest. The Reservation Woods area is a remnant oak-woodland ecosystem lobe located near the Fox River. The lobe is located along a glacial moraine system to the east of a geological feature known as the Oswego Channel formed by a torrent event at the end of the last ice age.

Within Reservation Woods, wooded bluffs descend into ravines, with seasonal flowing waters contributing to the waters of Morgan Creek, a tributary of the Fox River.

The Reservation Woods area and adjacent Henneberry Forest Preserve collectively collect and slowly release storm water, improving infiltration rates, and mitigating downstream erosion from high-volume storm events.

SDG 8 - Decent Work and Economic Growth

Goal: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Examples of project activities include, but are not limited to:

- ☐ Community participation in project implementation, including such things as providing access to financial resources for ongoing community-based care
- ☒ Emphasize local hiring and support small businesses
- ☐ Promote local economic opportunities through workforce training, career pathway development, or other employment
- ☐ Other

Kendall County Forest Preserve District is a local government entity employing 10 full time and up to 50 part time staff. The District's natural areas management program hires local contractors to support land management activities.

One of the local firms, SemperFi Land, Inc. is minority- and veteran owned.

SDG 10 - Reduced Inequalities

Goal: Reduce inequalities within and among countries

Examples of project activities include, but are not limited to:

- ☐ Provide connections and cohesion for social health, such as create or reinforce places that promote informal interactions, engage local residents and users in tree management, include symbolic or cultural elements, or other events
- ☐ Research, understand, and design to address understand historic and current sociocultural inequities, community health conditions, environmental injustices, or prior local greening efforts in community
- ☐ Locate project near vulnerable populations, such as children or elderly, to provide air quality improvements or buffer against extreme heat effects
- ☐ Locate project in high-density residential areas or where there is a lack of trees to improve access and promote an active lifestyle
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☐ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes
- ☒ Protect or plant trees to improve historically or culturally important sites that have been degraded and/or neglected
- ☐ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Emphasize local hiring and support small businesses
- ☐ Research and consider potential for gentrification and displacements
- ☐ Promote local economic opportunities through workforce training, career pathway development, or other employment
- ☐ Other

See information included in SDG-6.

SDG 11 - Sustainable Cities and Communities

Overall: Make cities inclusive, safe, resilient, and sustainable.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☐ If planting trees, select trees for reduced pollen counts and irritant production
- ☐ Locate project near high volume roads to screen pollutants
- ☐ Locate project near vulnerable populations, such as children or elderly
- ☒ Plant or protect trees to create shade, provide UV exposure protection, reduce extreme heat negative effects, and/or reduce temperatures to relieve urban heat effects
- ☒ Locate project near people to encourage recreation, provide new parks or green space, or otherwise promote an active lifestyle
- ☒ Design project to improve wellness and mental health, such as planting trees to buffer sounds, optimize biodiversity, optimize views from buildings, or create nature experiences
- ☐ Locate project near schools, elderly facilities, or mental health services to promote nature-based wellness, attention restoration, or other mental well-being
- ☐ Provide connections and cohesion for social health, such as create or reinforce places that promote informal interactions, engage local residents and users in tree management, include symbolic or cultural elements, or other events
- ☐ Research, understand, and design to address understand historic and current sociocultural inequities, community health conditions, environmental injustices, or prior local greening efforts in community
- ☐ Locate project in area with conditions of project-defined high inequity to trees, such as at schools, affordable or subsidized housing, formerly redlined neighborhoods, areas with high property vacancy rates, or area with high proportion of renters
- ☐ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Other

The woodlands provide shading to the ephemeral streams, reducing surface water temperatures. Transpiration promotes a microclimate where ambient air temperatures is cooled.

This project protects 10+ acres that will eventually connect to the larger 248-acre Henneberry Woods Forest Preserve to optimize biodiversity, create nature experiences, and encourage recreation to promote active lifestyles.

SDG 12 - Responsible Production and Consumption

Goal: Ensure sustainable consumption and production patterns

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to create shade or reduce temperatures to relieve urban heat effects
- ☐ Provide cooling benefits and energy savings by shading impervious surfaces such as streets or parking lots, or planting trees on south and west sides of buildings
- ☐ Other

See information provided in SDG-11.

SDG 13 - Climate Action

Goal: Take urgent action to combat climate change and its impacts.

Examples of project activities include, but are not limited to:

- ☒ Plant or protect trees to reduce or remove air pollutants
- ☒ Plant or protect trees to create shade or reduce temperatures to relieve urban heat effects
- ☐ Promote community capacity for social and climate resilience by engaging local residents or users in tree management, or other events to connect people to the project
- ☐ Reflect cultural traditions and inclusive engagement for climate resilience
- ☐ Design project to improve soil health
- ☐ Provide cooling benefits and energy savings by shading impervious surfaces such as streets or parking lots, or planting trees on south and west sides of buildings
- ☒ Plant or protect trees to reduce stormwater runoff
- ☐ Select water-efficient trees for climate zone and drought resistance
- ☒ Create and/or enhance wildlife habitat
- ☐ Other

See responses above. The District's natural areas management activities will continue to enhance wildlife habitat by monitoring for, and removing invasive species to optimize biodiversity.

SDG 14 - Life Below Water

Goal: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.

Examples of project activities located in areas with marine ecosystems include, but are not limited to:

- ☐ Locate project near high-traffic roads or to otherwise improve, mitigate, or remediate toxic landscapes near water
- ☒ Plant or protect trees in project areas to reduce stormwater runoff
- ☒ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☒ Prevent soil erosion into by protecting steep slopes
- ☒ Improve infiltration rates
- ☐ Improve, mitigate, or remediate toxic landscapes and human exposure to risk
- ☐ Drought resistance, such as selecting appropriate water-efficient trees for project climate zone
- ☒ Enhance wildlife habitat, such as riparian habitat for fish, birds, and other animals
- ☐ Other

This project protects the headwaters of Morgan Creek. See other responses above.

SDG 15 - Life on Land

Goal: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Examples of project activities include, but are not limited to the following with increased functionality of green infrastructure:

- ☒ Plant or protect trees to reduce stormwater runoff
- ☐ Select water-efficient trees for climate zone and drought resistance
- ☒ Create and/or enhance wildlife habitat to improve local biodiversity
- ☒ Plant forested buffers adjacent to streams, rivers, wetlands, or floodplains
- ☒ Prevent soil erosion by protect steep slopes
- ☒ Improve infiltration rates
- ☐ Other

This project conserves wildlife habitat to provide important refuge for local biodiversity.

SDG 17 - Partnerships for the Goals

Overall: Strengthen the means of implementation and revitalize the global partnership for sustainable development.

Examples of project activities include, but are not limited to:

- ☐ Promote community connections and capacity for social resilience by engaging local residents or users in tree management, or other events to connect people to the project
- ☐ Community engagement in project design, including such things as engaging and respecting existing relationships and social networks, community cultural traditions, and public participation methods that are empowering and inclusive
- ☐ Community participation in project implementation, including such things as addressing and removing barriers to participation, promote ongoing community-based care and access to financial resources
- ☐ Other

Summary of Project Social Impacts

This project conserves wildlife habitat to provide important refuge for local biodiversity. Furthermore it will reduce storm water runoff, provide buffers adjacent to streams, and therefore will prevent soil erosion. The District's natural areas management activities will continue to enhance wildlife habitat by monitoring for, and removing invasive species to optimize biodiversity.

This project protects the headwaters of Morgan Creek. The woodlands provide shading to the ephemeral streams, reducing surface water temperatures. Transpiration promotes a microclimate where ambient air temperatures is cooled. This project continues to improve infiltration rates and it enhance wildlife habitat, such as riparian habitat for fish, birds, and other animals.

This project is protecting trees within a remnant forested area that has retained a high-quality native plant community based on floristic quality studies within 10.0869 +/- acres at Reservation Woods – Henneberry Forest Preserve.
This effort will continue to reduce or remove air pollutants. This woodland will continue to create shade, provide UV exposure protection, reduce extreme heat negative effects, and/or reduce temperatures to relieve urban heat effects. Additionally, it will buffer sounds, optimize biodiversity, and therefore continue to offer wonderful nature experiences. It will encourage recreation by providing trails connecting the preserve's diverse habitat areas.


6 CLEAN WATER AND SANITATION
8 DECENT WORK AND ECONOMIC GROWTH
10 REDUCED INEQUALITIES
11 SUSTAINABLE CITIES AND COMMUNITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION
17 PARTNERSHIPS FOR THE GOALS